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A MAN THAT MADE HIS MARK.

Octave Chanute died last November and the engineering societies with which he was affiliated have prepared memoirs of his memorable career. For sixty years he has been identified with the development of transportation on land and in the air.

His thinking was as straight and fearless as his bearing. He had a sturdy figure, eyes that looked straight at you, a powerful head and jaw, and a spring to his step throughout life.

Born in Paris in 1832, through the emigration of his father he became a New Yorker. He only applied for one position in his life. He asked for employment on the Hudson River Railroad. He was told that there was no vacancy and then made request for permission to serve as volunteer chainman without pay. This was granted begrudgingly and in less than two months he was put on the permanent pay-roll. From that time on the positions always sought the man. He became Division Engineer of the Hudson River Railroad at Albany, in charge of terminal facilities and of maintenance of way, four years after his first application for a volunteer chainman's work.

His rise was phenomenal; his ability and endurance were marked. He made good at everything he undertook. Among other prominent positions held by him may be noted his service as Chief Engineer of the Union Stockyards of Chicago, Chief Engineer of the Chicago & Alton Railroad, during which service he built the Kansas City bridge, and Chief Engineer of the Erie Railroad. He was an incessant student of aviation problems and his active work in this direction has brought to him recognition as one of the founders of the science of flying. Tribute to him has been paid by every advanced aeronaut of our times.

Like all men who know much, he was characteristically modest. His experiments and investigations were made in a truly scientific spirit and at his own expense, free to all interested, and were carried out without any thought of pecuniary benefit to himself.

This brief characterization of a truly great man is to introduce to you a paragraphic gem written

by him in description of his efforts. The spirit of this paragraph is necessary to all of us if we desire to succeed in our life-work. We refer to **real success.**

He describes himself as **"Giving much of his leisure to the investigation of the chances of success in the possible solution of the problem of aerial navigation, not with the expectancy of solving it himself, for he held this would be the work of many men by a gradual process of evolution, but with the hope of advancing the question a little, and making the process easier for those who came after him, by eliminating some of the causes of past failures and laying down the principles which will have to be observed."**

It is only in such a spirit that we can hope to lay a successful foundation for the coming science of sanitary engineering.

POETRY IN BUSINESS.

All manner of catalogs pass through our hands, most of them built on the stereotyped plan. A few show originality of compilation and care in selection of type and stock. Every now and then, however, some one blossoms out with a new stunt. A recent catalog hailing from Warren, Ind., introduced poetry into its business-approach to the customer. The poetry may not rival that of Longfellow or Riley, but it embodies a commercial kindliness worthy of our emulation. Under the title "Think How Different" we are told

Think how different it would be
"If I knew you and you knew me";
But, never having yet clasped hands,
Both often fail to understand
That each intends to be "on the square."
And all transactions to be fair;
No room for complaints there'd be,
"If I knew you and you knew me."

A good deal of the price-cutting competition would disappear if each man learned this verse by heart and lived it. All that is needed is to exchange the "knews." The "soft answer that turneth away wrath" is forestalled by

If in your order we make mistake,
Or in your invoice some error make,
From vexation you'd be free
"If I knew you and you knew me."
Or when your check don't come on time,
And you write us not a line,
We'd wait without anxiety
"If I knew you and you knew me."

The above verse is a harness to the kicking foot, as the immortal William said, and will undoubtedly save the cost of the rubber stamp bearing the cold-blooded legend, "You have undoubtedly overlooked our statement of the umptyumpfed inst."

Manufacturers and supply-firms will doubtless receive the next verse with open arms.

Or, for damaged shipments us you blame,
Instead, against the railroad filing claim,
We'd take it in good faith, you see,
"If I knew you and you knew me."
With customers a mighty throng,
"Occasionally things go wrong—."
"Sometimes our fault, sometimes theirs—"
Endurance would decrease all cares,
But think how different it would be,
"If I knew you and you knew me."

It outlines a get-together policy promising highly beneficial results. The fount of originality ran dry in the last verse, but we reproduce it for the sake of good fellowship.

Then let us smile when things go wrong,
And life each day will be a song,
"Confidence to each other give,
Living ourselves, let others live";
But any time you pass our way,
That you will stop, we hope and pray;
"Then face to face we each shall see,
And I'll know you and you'll know me."

All complaints can now be disposed of in this manner: "Answering your strenuous grouch of recent date, kindly commit to memory verse three of our catalog, a copy of which we inclose under separate cover."

Our bills will, no doubt, in future be written muse-ingly in a manner of thusness hereinafter set forth:

Five feet of pipe ninety cents
One washer ninety-six
The total bill is, dearest gents,
One dollar eighty-six.
Think at once, we you now pray,
And do not play the hog
Or else "Now read verse 2," we'll say,
"Of our new catalog."

This innovation promises infinite possibilities to aspiring plumbers and steam-fitters. Plumbing codes may be metered in future and shop rules reduced to rhyme.

Anyhow, it is a fact that the get-together preachment is good medicine. Next time you are looking for the ax, with murderous intent on customer, manufacturer or jobber, murmur softly the lines, "Think how different it would be, If I knew you and you knew me." We tried it on the wife this morning and it worked fine.

Undesirable Citizens.

An American who spends much of his time in England tells of a cockney who went to a dealer in dogs and thus described what he wanted:

"Hi wants a kind of dog about so 'igh an' so long. Hit's a kind of gr'y'ound, an' yet it ain't a gr'y'ound, because 'is type is shorter nor any o' these 'ere gr'y'ounds, an 'is nose is shorter, an' 'e ain't so slim round the body. But still 'e's a kind o' gr'y'ound. Do you keep such dogs?"

"We do not," said the dog man. "We drowns 'em."

—Harper's Weekly.

Semi-Annual Meeting of the American Society of Heating and Ventilating Engineers

Held at Chicago, July 6-8, 1911

The holding of the semi-annual meeting of the American Society of Heating and Ventilating Engineers at Chicago on July 6-8 was a fitting conclusion to the series of conventions that have been held since January 1st, by different associations in the plumbing, heating and kindred trades.

The sessions were held on the 19th floor of the LaSalle Hotel, which was the headquarters of the convention.

The chairmen of the Committees on Arrangements and Entertainment, Edward F. Capron and Samuel R. Lewis, careful of Chicago's reputation as a summer resort, chose a brand of weather which delighted the visiting delegates. From all sessions, Messrs. Fahrenheit, Celsius and Reamur were carefully excluded. In fact, they were not allowed to register. (Vide list of attendance.)

The first session was held on Thursday morning, July 6th, the meeting being called to order by President Bolton at 10:15 a. m. The roll call was dispensed with, and Geo. Mehring welcomed the convention to Chicago with an appropriate speech, which contained a strong hint that the superfluity of heat units and hot waves with which the city has been afflicted may have emanated from the delegates in different parts of the country.

Reginald Palham Bolton, president of the organization, then delivered the following address:

The Outlook of the Society.

There are those who are content to steer their course along the stream of their occupation regarding only their main objective, but it would seem that something may always be gained by a widened outlook, and the man who, between the strokes of the oar, can find opportunity to gaze a little beyond the bounds of his path, may find incentives to effort and may gain new inspiration from the work of others.

The members of the American Society of Heating and Ventilating Engineers may apply with advantage such considerations to our activities, and, by some observation of subjects which are only apparently extraneous, may find that our society work covers a wider field than that to which it has been assumably restricted.

The art of heating is fundamental to human life; next to the possession of a supply of the primary elements of air and water, the means of securing heat is an absolute necessity for the maintenance of existence. This branch of science has been extended, and properly so, to include the kindred subject of ventilation, which is intimately connected with the health of a large part of our population. But there are further extensions of these two great matters which may appear to be appropriately connected with them, and could be included in the scope of our society's interests.

The processes of heating and ventilating are both associated directly with the physical condition of the atmosphere, and therefore a study of any phase of science by which that great primal element is affected, would appear to be worthy of the consideration of heating and ventilating engineers.

We are directly interested in questions of combustion, of smoke and its abatement, of fuel and its economies, and have a keen interest in the kindred field of refrigeration, which is now applied directly to purposes of ventilation and even processes of combustion. We are, or should be, the class of engineers most interested in the economics of fuel consumption and power production and transmission, in which the question of heat transference is the vital element.

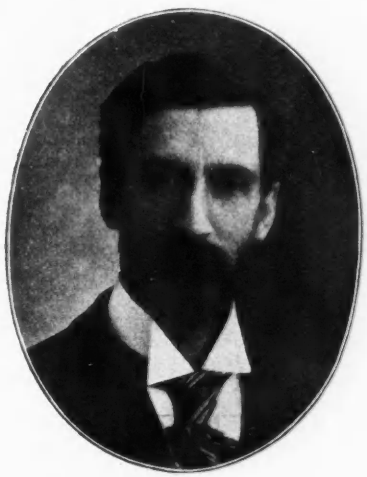
Methods of drying various materials and desiccation of food products, with problems involved in moisture and dampness affecting buildings, are subjects with which the heating and ventilating engineer is qualified to deal by the nature of his study and training. Our line of work brings us into the realm of acoustics, and should particularly qualify us to deal with the subject of noises and of vibration.

But in addition, the variations of wind, of weather, of rainfall and such geographic features as affects the atmospheric envelope with which we have to deal, are subjects that come within our purview.

Following this line of thought, I shall venture to lay before you some results of an excursion into one of these fields of study, and invite your attention to the subject of probable effects upon the climatic surroundings of a great city, by the vast quantity of heat emanating from its industries and from the heating of its buildings.

Zero Conditions.

The lowest range of temperatures which are to be expected in any locality are naturally those which must form the basis for the computations and estimates of the heating engineer, in making provision for the proportions of heating systems and piping, of heating apparatus, boilers and their smoke-stacks, all of which are, naturally, planned to meet the requirements with some degree of liberality in proportion.



Pres. Reginald Pelham Bolton.

The effect of such considerations is to provide appliances, the capacity of which is at least equal to, if not in excess of, the maximum requirements. It naturally becomes a question whether the appliances so installed can be utilized at other times with a reasonable degree of efficiency, or whether the provision of such proportions will not bring about a loss of economy during the prevalence of all higher temperatures than the basic condition adopted.

It is important, therefore, for the heating engineer, to study the past records of temperatures in order to determine the maximum conditions of any locality. In New York City, fortunately for such enquirers, our local authorities maintain, under the direction of the venerable Dr. Daniel Draper, hourly records of every element of atmospheric vicissitude, extending over a long period of time, and recorded under conditions of precise regularity.

It was found on examination of these records that the occurrence of a temperature as low as, or lower than zero, has been of less frequency for many years, and since 1904 has not been experienced at all. Further, that such occurrences are so infrequent and of so short a duration, that the provision for heating, under such conditions, might be provided by some excess or over capacity of apparatus, by which means much idle investment might be saved.

This leads to the question whether the practical elimination of "zero conditions" has been effected or brought about by any artificial means. Attention is naturally further directed by the prevailing shortage of water in the metropolitan area, to the records of humidity and precipitation, and it appears that in this element of our atmospheric surroundings some change has also taken place. On the other hand, the growth of fuel consumption and the resultant heat emitted over the area of the metropolis, has been such that the question arises whether or not its volume has reached an extent capable of affecting atmospheric conditions. Exact statistics of the consumption of fuel within the boundaries of the city have not been recorded for any great length of time, but sufficient indication may be gathered from those recorded during recent years to indicate that the increase in consumption has kept pace with the vast growth of the population.

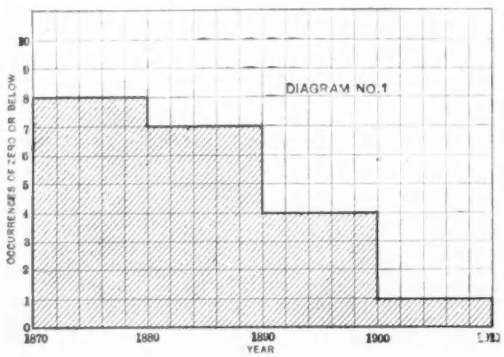


Diagram Showing Decreases in Occurrences of Zero Temperature and Below in New York City.

Consumption of Fuel in the City of New York.

The following details of the usage of coal in Greater New York are derived in part from the "Coal Trade Journal", and in part from the public records:

The generation of power for transit purposes consumed in the year 1909.....1,343,573 tons

The electrical lighting companies consumed in 1909 ..... 884,757 "

The production of gas involves the distillation of 918,000 tons of coal per annum, from which 450,000 tons of coke are derived, of which 188,000 tons are consumed by the gas companies, and 271,000 tons distributed and added to the domestic fuel consumed in the Greater City.

In addition to the fuel, 137 millions gal. of oil are used for gas enrichment, or a total weight of .....512,000 tons, equivalent in heat value to coal, of a weight of .....768,000 "

From these products there was made in 1909, an output of thirty-six and one-half million thousands of cubic feet of gas, which was distributed and burned within the area of the Greater City.

The production and consumption of gas, therefore, is equivalent to the heat value of a total of 1,686,000 tons.

There are 50 breweries, consuming about 500,000 tons annually, and the fleets of harbor tugs and vessels are estimated to consume about 450,000 tons of bituminous coal.

There are 745 private power plants in industrial, hotel and business buildings consuming about 2,200,000 tons.

The domestic usage of fuel, in houses, stores and apartments, is by far the largest and best defined element, amounting to 6,380,000 tons.

Sundry other elements bring the present annual consumption to a total of approximately 16,932,000 net tons per annum.

A proportionate addition for the consumption in Jersey City and its vicinity, in which a population of some 340,000 persons is resident, would add 1,250,000 tons.

With the addition of the oil used in gas manufacture, the total equivalent in coal becomes 18,950,000 tons.

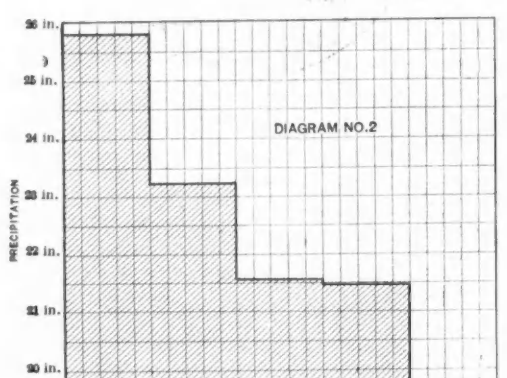


Diagram Showing Decrease in Precipitation During Winter Months Since 1884.

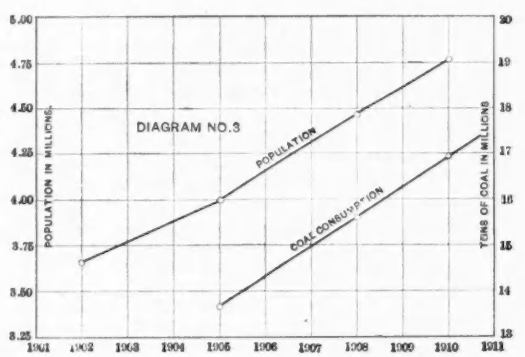


Diagram Showing Increase of Population and Fuel Consumption in New York City Since 1901.

The consumption of fuel has grown 23 per cent. in five years, and its course is shown in Diagram 2, on which is also shown the growth of population of the Greater City, showing a nearly parallel rate of increase, doubtless due to the large proportion of fuel which is directly utilized for domestic purposes.

The Heat Emitted by the City.

With these figures in hand, we can arrive at some estimation of the vast quantity of heat communicated to the incumbent atmosphere, particularly during the heating season.

From all the sources above described, there is cast up into the atmosphere a volume of heated gases, at an average temperature of fully 350 deg. F., probably eighteen times in weight that of the fuel consumed.

To the volcano of heated gases is added all the exhausted steam, and the products of combustion of gas, all mingling directly with the atmosphere, and in addition the radiant heat and heat conveyed by convection from all buildings, all frictional sources, and dissipation of energy.

The heat of condensed steam in power houses and that of all sewage is communicated to the waters within the area of the city, and is thus indirectly added to the heat-radiating effect.

A not inconsiderable item is that of the animal heat of the population of 5,000,000 persons, which, upon the basis of an average emission of 200 heat units per hour per individual, would amount to 24,000,000,000 per diem, equivalent to the heat value of 438,000 tons of coal per annum.

The Effects Above the City.

The portion of the city in which the fuel consumption takes place is practically that included within an area of 130 square miles, comprised within an oval space shown on the accompanying map.

Within this area, during the winter heating season, about 80 per cent. of all the fuel, and about 60 per cent. of the oil is consumed. The average consumption of 85,830 tons per diem, upon the basis of an average temperature of 40 deg., leads to the extreme condition, when a zero temperature is approached, of a consumption of 214,560 tons per diem.

We may first consider the effects of the emission from the smoke flues and stacks of the gases derived from their combustion of this amount of fuel.

Assuming the emitted gases to be 18 times the weight of fuel burned, their daily volume would be 175,680,000,000 cubic feet, and if their average temperature be taken as 350 deg. F., the heat contained would be 614,500,000,000 heat units. Such a heated volume would add three and a half degrees to the temperature of the atmosphere, one-half mile in height, over the area of 130 square miles.

If to the volume of these gases of combustion, we add the radiant heat and that imparted by convection from all sources to which reference has been made, we find a total exceeding 4,000,000,000 heat units per 24 hrs., which may be capable of increasing by a similar amount the temperature of a volume of air seven times greater than the foregoing, or would raise the temperature 4.94 deg. F. over the entire area of the Greater City, 326 square miles, to a height of a mile.

It would seem, therefore, that the first premise as to the effect of the heat emitted by the city in modifying the lowest temperatures of the heating season, is substantiated.

Effects Upon Precipitation.

That this great emission of heat is also capable of producing some effect upon rainfall appears from the conditions disclosed by the records of precipitation.

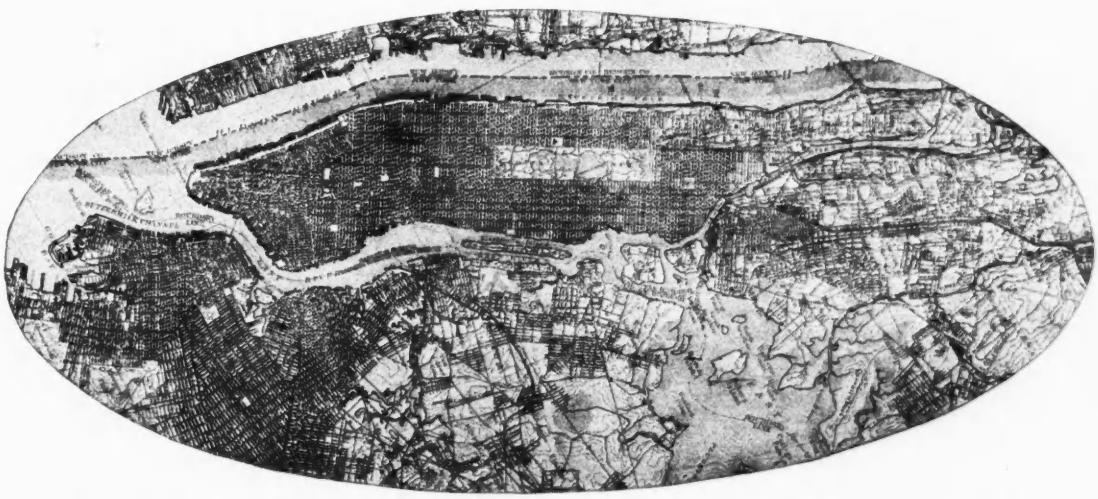
The mean annual rain-fall of the City of New York is 44.6 in., an average which, up to the year 1903, was fairly maintained, the average for 25 yr. prior to that date being nearly 45 in. Since 1903, however, the mean precipitation has fallen to 40.17, and the highest annual rain-fall in that period, 1907, was only 45.48.

At the same time the number of cloudless days has considerably increased. Between the years 1889 and 1903, the highest number of such occurrences was 96, but since 1903 the highest has risen to 114, and the average for seven years has been 101.

These are indications of a growing condition of dryness which appear to accompany a decrease in annual precipitation, which in 1910 fell to the unusually low rate of 33.72 in. Examination of the precipitation during the heating season shows that there has been a progressive decrease during the past 20 years, and since the winter rains are those which are least subject to evaporation, their reduction is likely to be productive of the condition of dryness from which New York is at present suffering.

Assuming that the large volume of heat already described should be added to the incumbent atmosphere over the area of the city, or 326 square miles for each degree added, the increased temperature of the air would add about 3½ per cent to the moisture-absorbing capacity of the atmosphere. It is evident that this great volume of heated air would, in the absence of winds, rise as do the gases emitted from the mouth of a volcano, and reaching a certain height, would spread and fall as they were gradually cooled by the cold blanket of superincumbent air or moisture-laden clouds. The effect would thus radiate over a very considerable area, and would be productive of just such a variation of the conditions of humidity in the city and its surrounding district as appears from the records to have been gradually developing.

So far as the rise of temperature is concerned, no other



Map of the 130 sq. mi. of the Metropolitan Area of New York, the Heat Development of Which is Considered.

than beneficial results can be attributed to the dissipation of this vast amount of heat, but if the effect extends, as it must extend, into the absorption of moisture by the air which would otherwise have been deposited upon the area below it, then we shall find, in a reduction of winter rain-fall over this area, a result which may have reached an appreciable point at the present time, and which, in the course of time, by the growth of the interference with nature, may become disastrous.

That such an effect is now going on, would appear reasonable from the premises. The total heat emitted would raise the moisture-absorbing capacity of an envelope of air a mile high over an area of 326 sq. mi. about 7 1-3 per cent.

Let us assume that the usual conditions preceding a rain-fall are in progress: A gathering amount of humidity in the superincumbent atmosphere has taken place, and a degree of saturation has been reached, of, say 99 per cent., the temperature of the air being 42 deg. F. At the approach of any cooler wind or other layer of air, the temperature would fall, and upon reaching 40 deg., a condition of complete saturation would be reached and rain would commence. But meantime, the heat emitted by the city below is being continuously transmitted to, or radiated through the atmosphere below, the rain clouds, and notwithstanding the fall in temperature of the superincumbent layers, the rising column of heat has the power of increasing the absorbing capacity of the layer below, or of retarding the fall in temperature of the saturated air, so that the dew point is not reached.

Under these circumstance, rain will not fall, though

the atmosphere, for some distance above the ground, may be highly saturated, in which form it will remain as a fog.

The figures cited indicate that the total heat emitted by the city in average winter temperature of 40 deg. Fahrenheit would add to the temperature 2 deg. over the area of the Greater City, 326 square miles, to a height of one mile; and would produce the effect of increasing the capacity for saturation of the mass of 48,000,000,000,000 cu. ft. by a total of 1,440,000,000 lb. of water—equivalent to about 0.03 in. of rain over the entire area of the city.

If these conclusions as to the association of the mechanical dissipation of heat with the vicissitudes of temperature and humidity in the surrounding atmosphere should be well based, then we must look forward to an increasing degree of artificial interference with the course of nature, as the population and its fuel consumption grow on parallel lines.

It is worth while to observe that the coal consumption of the City of New York is by no means excessive compared with the per capita rate throughout the country. The destruction of fuel in this country has reached colossal figures, exceeding at present 550,000,000 tons, or a per capita rate of about 6 tons as against about 4 tons in the metropolis.

All such considerations as have been here presented lead to the conclusion that this source of human wealth and comfort should not be unnecessarily wasted. As it is at the present time, the majority of domestic heating is effected at a very low percentage of efficiency. We must look forward to better methods for the production of heat, as well as of power, especially in great cities, probably by greater concentration in central heating plants, in place of the wasteful processes of domestic heating and power.

To devote earnest attention to all means which will be productive of desired effects under the most economic conditions, to reduce useless and unnecessary wastages, to advance the great art which involves such immense possibilities of interference with the latent forces of nature, is not only the privilege, but the duty of every engineer, and particularly of every heating and ventilating engineer.

J. T. Wing, representing the Chicago Association of Commerce, presented a hearty greeting to the heating and ventilating engineers, and stated that his welcome was not that merely of an individual, but of 4,000 business-men in the city of Chicago, all of whom recognized the importance of the society's work.

N. L. Patterson then spoke on behalf of the Illinois Chapter, referring to the strength of that organization and the splendid work it has been doing. He extended the greetings of the chapter to the delegates, and expressed hearty appreciation of the honor conferred on it by the visit of the parent organization.

S. R. Lewis supplemented Mr. Patterson's remarks by a detailed explanation of the work of the chapter's ventilation committee, and cited cases which showed the growth of the recognition of the society's importance throughout the country. Mr. Lewis offered a resolution expressing good-will towards and sympathy with James Mackay, past-president of the American Society of Heating and Ventilating Engineers, and also past-president of the Illinois Chapter. Mr. Mackay is at the present time seriously ill with typhoid-fever, and the resolution embodied the best wishes of the society for his recovery. The resolution was adopted.

The reports of various committees were then called for. The first report was that on the Committee on Legislation concerning compulsory legislation. This was briefly given by Jas. D. Hoffman, general chairman of the committee and of the state sub-committee.

Report of Committee on Legislation Concerning Compulsory Legislation.

This report was excellent and comprehensive, showing a definite series of movements towards efficient ventilation. The amended Factory Ventilation Bill, still in the balance, insists on the quality of air delivered, a point hitherto neglected in most ventilation bills. A limit of nine parts of carbon dioxide in 10,000 volumes of air in excess of the number of carbon-dioxide parts in the outside air is set. In workrooms, 1,200 cu. ft. of air per hour for each person are required and 1,000 cu. ft. per hour for each cubic foot of gas burned per hour.

The conscientious work of the Illinois Committee, co-operating with the Health Department of the city of Chicago, was heartily commended. This committee presented a paper before the National Tuberculosis Association at Denver and another before the American Medical Association at Los Angeles.

Indiana passed a good sanitary law with provisions for adequate ventilation on March 3d, through the combined efforts of Mr. Weinshank, the chairman of the state committee, Dr. Hurty, the state health officer, and the medical association.

Nebraska is endeavoring to secure the passage of a satisfactory bill. The weakness of existing laws is the sentence "Proper ventilation shall be provided." This is indefinite as the trust-bucking term "unreasonable restraint."

The principal features of the Wisconsin, Kansas and North Dakota ventilation-bills were also presented.

The Kansas bill regulates the ventilation of theaters, picture-shows, churches and other public buildings in a most definite manner and imposes a fine of $10 per day for non-compliance with the conditions called for.

Section 3 of the North Dakota bill is interesting: "No toilet-rooms shall be constructed in any public building unless same have outside ventilation and windows permitting free access of air and light."

Theo. Weinshank, Indianapolis, commenting on the committee's report, referred to Indiana's need of a first-class ventilation-law.

W. L. Bronaugh emphasized the importance of all ventilation-laws prescribing the zone of introduction of the air. He was surprised that no mention had been made of a ventilation committee in Ohio.

W. W. Macon, secretary of the organization, announced that Ohio possessed an excellent committee on compulsory legislation and ventilation, with which correspondence already had been held and arrangements had been made for effective co-operation between that committee and the society's committee.

Other participants in the discussion were Messrs. Davis, Armagnac and Lewis, and President Bolton complimented the committee on its thorough work and entertained a motion to receive the committee's report and place it on file. It was duly moved and seconded and passed.

The committees on standards and tests, reported progress.

The Committee on Heating Garantees made no special report, but Wm. M. Mackay on its behalf read letters from leading engineers who signified their desire for a broad and definite garantee to all engineering work. It was stated that the engineer should assert himself, and should hold himself as responsible for the results of his designing and work as any other professional man.

The Committee on School-room Ventilation made its report through its chairman, Frank Irving Cooper, to the effect that owing to the illness of Dr. Gulick, progress of the work has been seriously impeded, but it expects, however, that Dr. Gulick will be able to resume his labors in September.

A paper entitled "Free Engineering" was then submitted to the society by Perry West and Geo. W. Knight.

Free Engineering.

The authors freely condemn the practice of doing certain portions of engineering work "apparently gratis." They contend that such services are paid for in any case, but the plans and specifications furnished, including, as they generally do, apparatus outside of the manufacturer's and contractor's particular line, must necessarily be of inferior value to those which could be obtained by engineering specialists in the particular lines. Free engineering, as outlined, is detrimental to owner and engineer alike. A plea was made for possible legislation in favor of the engineer on whom the responsibility of the success of every installation designed by him should be placed.

President Bolton led the discussion and referred to a case where the plans for the ventilation of a college were submitted by seven firms at an expense of no less than $300 each. He believed that the furnishing of gratuitous plans and specifications was a wide-spread evil.

W. R. Bronough stated that this evil could only be overcome by a vigorous campaign of education. Jas. H. Davis, speaking on behalf of the manufacturers, maintained that it was often difficult to introduce new apparatus without the gratuitous furnishing of such plans and specifications. This had proved to be manifestly true in the case of blower and vacuum heating installations. He was supported in his contention by Wm. M. Mackay.

Jas. D. Hoffman recommended that the society should make haste slowly in this direction, but that steps should be taken to educate those in the trade to the evil effects of a wide-spread policy of free engineering.

Discussion was then called for on "The Operation and Care of Heating Apparatus." This was led by Wm. Mackay, and Messrs. Weinshank, Tait, and Bolton also participated. The trend of the discussion was to the effect that the character of the person superintending the apparatus was largely responsible for the efficiency or deficiency of its operation. Several cases were cited in confirmation of this opinion.

"The Reluctance to Divulge Alleged Secrets in Regard to Engineering Progress" was the next subject considered. Wm. Mackay stated that such reluctance was unjustifiable, as it was being better known every day that the more one gave the more one got.

John F. Hale commented on the free interchange of professional knowledge which took place among the association's members. Theo. Weinshank said that such reluctance was generally to be found among the men who had the least to give; in fact, some of them had nothing to give and were afraid to give it out for fear they wouldn't have anything left.

Thursday, July 6th.—Afternoon Session.

The afternoon session opened with John P. Allen, first vice-president of the society, in the chair.

Mr. Allen introduced to the convention Paul P. Bird, formerly head of the Smoke Department of Chicago, who spoke at some length on the smoke evil, and the efforts that had been made to overcome it. The railroads of Chicago are the chief offenders, being responsible for 43 per cent of the smoke. Mr. Bird gave many interesting facts. He stated that the residences and private dwellings of Chicago's citizens were responsible for the lowest percentage of smoke; only 4½ per cent of the total smoke of the city.

Mr. Bird was of the opinion that there is no universal panacea for the smoke-evil. He recommended as first steps to its abatement:

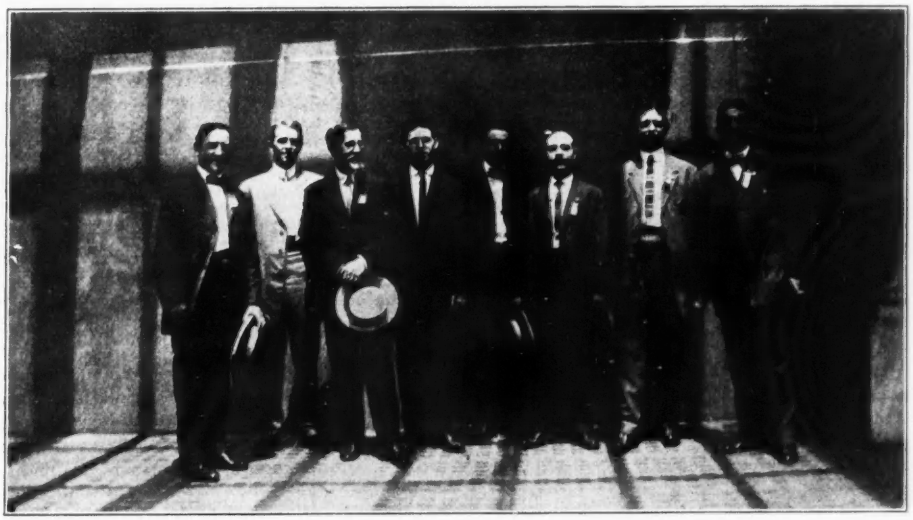
Electrification of railroads.

Central-station heating plants.

The use of hard coal on boats.

The use of gas and coke for heating and cooking purposes.

President Bolton in his discussion of the address, commented on the decrease of the hard-coal supply. It is inevitable that we must resort to mixes of hard and soft



Some of the Investigators of the Blackstone Refrigerating Equipment.

E. M. Murphy, S. R. Lewis, R. P. Bolton, R. Collamore, B. Cones, J. D. Small, G. Kaufman, T. Tait.

coals in the future and finally to soft coal exclusively. Mr. Bolton stated that most boilers are set too low over the furnace for effective combustion of low-grade coals. Cases were cited of advantages derived by a higher setting. Smoke and dust from chimneys discolor and attack the building materials, diminish the light provided by nature and increase the use of artificial light. The smoke-evil exacts a heavy toll from the public and private purses.

Frank L. Busey then gave an account of tests on house-heating boilers conducted at the University of Illinois.

J. D. Hoffman congratulated the president on his address. He said the modern engineer must possess three qualifications—he must be an investigator; he must be a logical reasoner; he must be a man of action.

Mr. Bird congratulated the society on its marked interest in such an important subject. The reason for the high percentage of smoke caused by railroads will be understood, he said, when it is considered that Chicago has 30 railroads entering it, 1,500 locomotives operating in the city limits all the time, over 2,200 miles of track. Though residences and flats have the low smoke-percentage of 4½ per cent, the smoke is more objectionable because it is close to the ground and in the residence-district. About 15 per cent of the city's coal-consumption is used for domestic heating.

Frank L. Busey, University of Illinois, Urbana, Ill., was then called upon to deliver a paper entitled

A Proposed Basis for Rating House-heating Boilers and Furnaces.

This proved to be one of the most interesting papers presented at the meeting. The desirability of some common or comparable basis of rating was pointed out, a rating which can be expressed by some small quantity, in order that it can be easily handled and comprehended.

As a result of hundreds of tests made at the University of Illinois, Mr. Busey, supported by numerous figures, charts and diagrams, gave the following conclusions:

The basis of rating should be equally applicable to steam and hot-water boilers and to warm-air furnaces.

The unit of rating should be of a form that will allow comparison with that used for power-boiler rating.

The term "horse-power" used in the A. S. M. E. rating for power-boilers fulfills best the above requirements.

The heat generated or power developed on each square foot of grate by the combustion of one pound of fuel on it has been found to be a constant, for both boilers and furnaces.

This constant bears a definite relation to the size of the heating unit, as expressed by the ratio of its total heating surface to grate area.

Mr. Busey showed how the diagrams and the formula given could be used to check up boiler-rating catalog-values and insure the efficiency of the installation.

Discussion on this paper was made by Messrs. Allen, Macon, Bolton and Hoffman, mostly relating to conditions during the tests.

A. W. Glessner, Chicago, vice president of the Federal Furnace League, then read an interesting paper on

Tests on Insulation of Furnace Wall-Pipe.

Mr. Glessner pointed out the importance of conservation and efficiency in all heating systems. He described the tests made at the Underwriters' Laboratory, Chicago, to determine the best forms of insulation for furnace casings and bonnets and more especially on furnace wall-pipes. Tests were made on single pipe, single pipe wrapped with two thicknesses of asbestos paper and double wall-pipe. In all these tests, the double wall-pipe proved to be immeasurably superior, showing smaller heat-loss, greater efficiency and insuring rigidity and longer life. The Underwriters' Laboratory advocates the use of double wall-pipe to reduce fire-hazards.

On motion of Mr. Capron, votes of thanks were extended to Messrs. Bird, Busey and Glessner for their valuable contributions. The meeting then adjourned to meet the following morning at 10 a. m.

Friday, July 7th.—Morning Session.

The first number on the morning program was a paper by Samuel R. Lewis, Chicago, on

Heating and Ventilating High-School Buildings at Decatur, Ill.

Mr. Lewis outlined the scheme of heating and ventilating new and old school-house buildings in Decatur, Ill., steam for heating and electric light and power being supplied from a central point. The paper championed the indirect type of heating installed in these buildings, setting forth the following advantages of the indirect method.

1. It is ordinarily difficult or impossible to hold school without running fans and securing ventilation.
2. The pupils in a given room are all subjected to the same temperature and some are not overheated, as they must be when direct radiators are placed in the rooms.
3. The trouble and noise of air valves and steam and water circulation in the radiators are eliminated.
4. The false air circulation by direct radiators destroying diffusion of the fresh air is eliminated.
5. The author has always found the all-indirect plants to be more economical of fuel.

Comparative figures of fuel-consumption under identical conditions with identical equipments were given, showing the superiority of the indirect heating system to the direct and indirect in combination, in one case the figures being 0.67 lb. of coal per cu. ft. of space as against 1.11 lb. in favor of the indirect.

A sanitary feature instanced was provision for ventilation of toilet-rooms and urinals through local vent-openings, served by metal ducts and direct-connected exhaust fans.

Full details of the equipments were given, these being made additionally clear by special plans, charts and photographs.

President Bolton considered the leading features of the installation at some length. Methods of overcoming the noise and vibration of fans were discussed by Messrs. Hoffman, Burdick, Bolton and Lewis. Mr. Lewis described the experimental ventilating installation at the Chicago Normal School.

A statement was made that it is easier to heat the building by introducing cold air than by recirculating the air, doing in 20 per cent less time, though at greater cost. An interesting discussion took place on this point, participated in by Messrs. Collamore, Hoffman, Lewis, Gifford, Bolton, Hayward, Sterrer and Collins. Mr. Collamore believed that this would not be true save under abnormal conditions of installation, which might have been present in the installation referred to.

Theodore Weinshank, Indianapolis, then referred to the cordial welcome he received from the British heating and ventilating engineers last February during his trip to Europe. He was charged to convey to the society their message of goodwill and desire for co-operation. Mr. Weinshank stated that the British heating and ventilating engineers were in session at the present

time at Chester, England, and suggested a short message of greeting.

Mr. Mackay moved that a cable message be sent by W. W. Macon, the secretary. The motion was carried.

The following paper was then abstracted by Secretary Macon in the absence of the author, D. M. Quay.

Ventilation of the Macy Store, New York.

This paper described briefly the ventilating arrangements, more particularly the underground portions, of the department store of R. H. Macy & Co., at Thirty-fourth street and Broadway, New York City. The ventilation-scheme serves the basement and sub-basement and also gives an air-supply to the main floor. There are about 600 persons employed in the sub-basement department. A plan-drawing was shown of its ventilation-installation. The air is taken from a point above the roof-level, passes downward to the tempering-coils and is delivered to the departments by two 160-in. steel-plate blowers through two main fresh-air discharge-ducts. A mechanical exhausting system is also installed for the removal of vitiated air from boiler, engine, machinery, toilet and locker rooms, and also from the kitchen, laundry, bakery, etc., on the eighth floor. The ventilating installation is so perfect in operation that the Board of Health of New York has issued a permit that boys under 16 yrs. of age and girls under 14 yrs. may be employed in the sub-basement.

Street-Car Ventilation.

"Street-car Ventilation," was the subject dealt with by W. Thorn, a non-member, and in Mr. Thorn's absence was read to the meeting by Wm. Mackay. In brief, its treatment was as follows:

The common method of ventilating street-cars by means of a monitor-deck or clear-story, with its numerous small windows, is of doubtful value and efficiency. Little of the fresh air admitted can reach the breathing zone under normal conditions and attempts to increase the supply of air results in objectionable strong drafts.

The necessarily-restricted capacity of the car-body, the varying needs of the passengers and the necessity of maintaining uniform and fixed temperature, make car-ventilation an intricate problem, whose solution has been attempted by manufacturers of two general types of apparatus. The first type includes all those which depend on the speed of the car for operation; the second type embraces all mechanical devices for the circulation of air. Both types were described by the author. Emphasis was laid on the close relationship between the heating and ventilation of cars and the advantage of their co-operative design. Tests made on both mechanical and aspirating types show the possibility of providing a complete air-change in the car every three minutes without objectionable drafts.

After a brief discussion concerning the extent of car-ventilation in force, a vote of thanks was extended to Mr. Thorn for his contribution to the society's literature.

A subject assigned for discussion was "The Amount of Solid Material, Dust and Dirt Extracted by Air-Washing Apparatus in Various Cities, Say per Million Cubic Feet of Air Treated."

The discussion was sustained by Messrs. Thomas and Natkin. A case of the collection of 60 lb. of solid matter in 72 hrs. in a 40,000-ft. machine was given. Half of the amount was carbon. It was stated that air-washers removed all odors unless exceptional overcharges of sulphur, etc., were present. These could also be removed by chemical treatment. Another case was given of the accumulation of a 2-in. layer of solid matter during a 14-hr. daily run by a 40,000-ft. machine, the deposit being made in a tank of 40 sq. ft.

An old friend came to life in Topic 8 on the program, "So-called Superiority of Exhaust-Steam Heating over Live-Steam Heating." This is the way the arguments ran:

For.

Moisture-laden steam delivers more heat than dry steam.

The use of the engine as a reducing valve gives better results than with the ordinary reducing valve.

It is better.

Now see here!

Against.

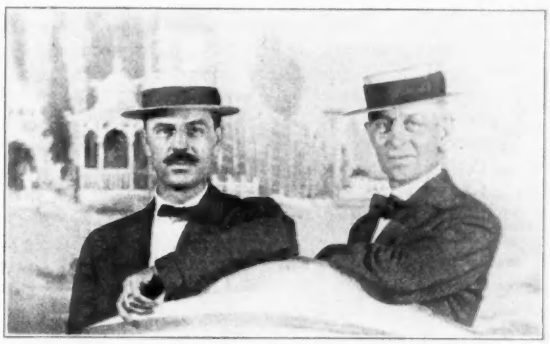
You can't take out more than you put in.

You can't get something for nothing.

We admit that moist steam carries heat better than dry steam and that saturation increases heat-conductivity but there can be no difference in the total amount of heat.

It isn't better.

You've got to show me.



Charles F. Newport. John F. Hale.
The New and Old Secretaries of the Illinois Chapter.

Some consideration was given to the topic of "The Desirability of a Positive Supply of Air in Testing Furnaces."

Wm. Mackay stated that the supply should undoubtedly be positive but should not exceed normal conditions.

Frank L. Busey described his system of air-supply at Urbana, the air being forced by blowers into a large box from which the furnaces drew the air they needed. Control was obtained by orifices of different sizes.

W. F. Colbert, Philadelphia, said that a constant of air-supply was an impossibility. Every furnace was a law to itself. The moment air is forced to a constant of delivery, all distinctions of furnace-construction are lost. He said that there should be installed a device to control wind-pressure effects.

"Importance of Vacuum-Cleaning to the Ventilating Engineer," was the last topic discussed.

Prof. John R. Allen, of the University of Michigan, stated that in recent tests made in the city of Detroit, it was surprising to note how much variation there was in the types of cleaners submitted and how little the manufacturers of these devices seemed to understand the conditions of their satisfactory installation and use. The types submitted varied from 2-in. to 15-in., with from 2-in. to 26-in. vacuum pumps; weights from 500 to 7,000 lb.; power ranging from 2 to 7 h. p.

He gave it as his opinion that the vacuum-cleaner can

never compete with the broom for speed. The only advantage to be considered was the removal of dust.

Mr. Colbert stated the fundamental trouble was not with the vacuum-cleaner so much as the construction of the school-rooms. He advocated curved corners and washable floors, walls and ceilings so that a thorough flushing might be given daily.

Wm. Mackay then moved a vote of thanks to the Illinois Chapter for the courtesies and entertainment given. This vote was heartily accorded.

Secretary Macon announced that the registration was 25 per cent larger than that at St. Louis. Twenty-six new members have been elected. He read the list of these members and associates, already published in "Domestic Engineering." Mr. Macon announced the early publication of the proceedings for 1909, 1910 and 1911. He stated he had received 10 applications for membership since the last ballot.

Secretary Macon then called the attention of the meeting to a paper that had been submitted to him for the society's consideration by Dr. Lewis B. Bitancourt, of Manaos, Brazil. This paper advocated a new scheme for securing pure cold air. This is how it can be done:

Pure air is to be found at a height of 3,000 ft.

Air gets one degree colder every 275 ft. as you go up.

But you don't go up.

You send up little balloons filled with hydrogen, which lift a flue of soft material, politely called an intake channel, 25 to 30 ft. in diameter.

Then you draw the air down the flue by a fan and pipe it where you want it.

"It is easy," says Dr. Bitancourt. "All I need is the money."

The convention then adjourned.

List of Attendance.

The official register showed the following in attendance:

Reginald Pelham Bolton, president, New York City; W. W. Macon, secretary, New York City; John R. Allen, 1st vice-president, Ann Arbor, Mich.; Jas H. Davis, Chicago; A. S. Armagnac, New York City; W. M. Mackay, New York City; W. H. Johnson, Indianapolis; J. D. Hoffman, Lafayette, Ind.; Emmons Collins, Chicago;

B. F. Raber, Lafayette, Ind.; Thos. Tait, Moline, Ill.; S. E. Von Rehm, Chicago; L. C. Soule, Chicago; Frank L. Busey, Urbana, Ill.; John D. Small, Chicago; N. L. Patterson, Chicago; A. W. Glessner, Chicago; Ben Cones, Indianapolis.

John F. Hale, Camden, N. J.; Theo. Weinshank, Indianapolis; W. L. Bronaugh, Chicago; S. R. Lewis, Chicago; Wm. Ritchie, New York City; A. C. Burdick, Seattle; O. Monnett, Chicago; Chas. E. Warsop, Chicago.

A. G. Cripps, Akron, O.; Geo. Mehring, Chicago; Eugene Bradley, St. Louis; Geo. H. Kaufman, Chicago; Robt. L. Gifford Chicago; F. Van Inwegen, Chicago; R. B. Hayward, Chicago; Benjamin Natkin, Chicago; H. de Joannis, Chicago; Geo. W. Wood, Cleveland.

Jos. G. Hayes, Indianapolis; J. P. Morley, Chicago; J .H. Martin, jr., Chicago; E. Sugerman, New York City; A. N. Goff, Chicago; H. R. Putland, Chicago; F. M. Bailey, Chicago; J. F. Wing, Chicago; H. Ehrlich, Chicago.

Geo. H. Kirk, J. M. Stannard, Henry H. Lee, Albert Scheible, Daniel Stern, Paul P. Bird, H. B. McLelland, Geo. M. Tait, R. M. Stackhouse, E. G. L. Tratman, A. F. Sterrett, H. A. Miller, E. C. Carey, R. W. Hillman, B. T. Gifford, A. T. Clark, C. E. Wright, all of Chicago.

J. H. Kitchen, Kansas City, Mo.; Chas. F. Newport, Chicago; H. Marell, Stockholm, Sweden; F. S. Whitelaw, Chicago; E. B. Gordon, jr., Chicago; W. B. Graves, Chicago; B. W. Brady, Chicago; Fred B. Orr, Chicago.

C. G. Rood, James E. Heg, A. S. Cameron, Wm. H. Chenoweth, jr., G. M. Proudfoot, E. F. Capron, R. H. Kuss, R. L. Eddy, A. H. Schroth, J. P. Dugger, all of Chicago.

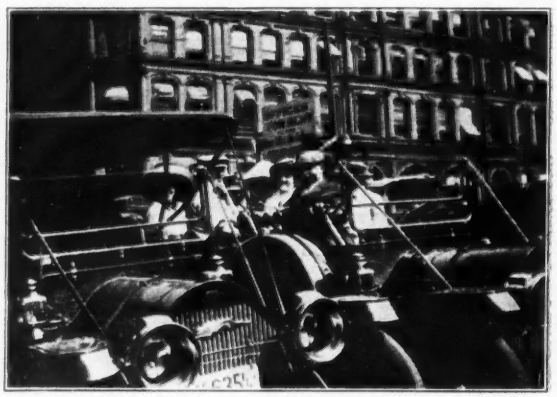
M. F. Moore, Kewanee, Ill.; H. E. Pursell, Kewanee, Ill.; E. N. Murphy, Chicago; R. Collamore, Detroit; R. G. Rosenbach, Chicago; Ben Nelson, Chicago; Victor Larsen, Chicago; Francis W. McGuire, Rockford, Ill.

H. W. Ellis, H. R. Dillon, A. W. Boylston, L. M. Berwin, Wm. M. Scudder, Chas. K. Foster, John Boylston, all of Chicago.

Entertainment Features.

The entertainment features provided by the Committee on Entertainment were well balanced. On Thursday evening, the members had supper in the La Salle Hotel roof-garden, a special program of music being provided. During the afternoon session on Thursday the ladies were conducted through the Field department-store, and at the end of their trip were refreshed by numerous cups of the the uninebriating fluid of special Illinois Chapter brand.

On Friday afternoon the entire convention was given an automobile ride over the boulevards and through the



The Start of the Automobile Trip.

parks of Chicago, stopping en route for inspection of the plant of the Sears-Roebuck Co. The weather was perfect, and the trip concluded in time for a hasty supper before the boat-ride on Friday evening. The "Theodore Roosevelt" was the conveyor of happiness, and the night-trip was as perfect as the one in the afternoon.

Saturday morning a number of the members visited the refrigerating and other interesting points of the mechanical equipment of the La Salle, Blackstone and Auditorium Annex.

The meeting in Chicago went down on record as being the most successful and profitable summer-meeting yet held by the American Society of Heating and Ventilating Engineers.

Corpus Christi, Tex.—The Corpus Christi Plumbing & Heating Co. has been incorporated to take over the plumbing and heating business of John J. Coates. The new company has opened an up-to-date establishment at 418 Schatzel St. in this city, with a complete line of plumbing and heating goods. The officers of the company are: President and manager, John J. Coates, formerly of Pittsburgh, Pa.; secretary and treasurer, Harold Smith; consulting engineer, F. H. Lancashire.

The Range Boiler and Connections

Uses, Abuses and Modifications

By Phoenix.

Points of Former Chapters Summed up for Hasty Inspection in Time of Need.

1. If in doubt as to whether a 30 or 40 gal. range-boiler is required for the job, take the larger size. Make the same application all along down the different sizes.

2. Do not locate the range-boiler at any great distance from the water-front unless absolutely compelled so to do by the limited amount of space available, or some other excellent reason.

3. In cases where it becomes necessary to locate the boiler at a distance from the front, try to place it above rather than below the water-front.

4. The pipes connecting front and boiler (running from 7 to 10 and from 6 to 2 as shown in the drawing), should be run with as few turns as possible; 45 deg. ells are much better for this than those generally used.

5. These pipes just mentioned should be reamed and should never be run less than ¾ in. in size, and the material should be preferably of galvanized-iron.

6. The end of the cold water tube inside the boiler should be kept some 3 in. above the level of the water-back, to avoid danger of siphonage.

7. The hole in the cold water tube at point 24 should be about ⅛ in. in diameter. File a notch and ram through with a punch or nail.

8. Do not run this drop-tube of smaller size than ¾ in.

9. A vacuum valve, on general principles, is safer than the hole punched in pipe at point 24.

10. The vacuum-valve should be placed on the cold water pipe, say at point 12, which would be the highest point on this siphon, and by using the vacuum-valve, no hole in the drop-tube is necessary.

11. If union couplings are used at points 19 and 20, a lead gasket is much safer than one of rubber. The use of a union, where no gasket at all is required, is the best practice.

12. No check-valve should be placed on the cold water pipe. Better run the chance of having the hot water get into the meter, than to risk an explosion in the kitchen wherein life may be endangered or property destroyed to a considerable extent.

13. Test out the water-front with the level and be sure that the front is not set so as to pocket any air.

14. This advice applies to all the rest of the pipes on the job. Carry a pocket-level, for it can be used in every job upon which one is working.

15. A coil made of pipe may be used in the place of the regular water-back. With this coil it is possible to get more heating surface than is usually found.

16. In selecting pipe for such a coil, care should be taken to see that it is free from inside obstructions.

17. The same or larger size pipe can be used for the coil as compared with the size of the pipe run between the coil and the range-boiler.

18. Care should be exercised that, in ordinary installations, the range-boiler does not set too low with regard to the position of the water-front. Several instances have been sent to the paper in which the water-front was nearly at the middle of the boiler as regards the altitude. This will cut down the amount of hot water in the boiler and may do so to such an extent that it will be almost impossible to get any hot water at all.

19. If the connection between point 3 and point 6 can be made without any turns at all, it is much better.

20. In case that it becomes absolutely necessary to place the range-boiler at some point below the water-front, the flow-pipe from the water-front should not be run directly down from water-front to the top of the range-boiler.

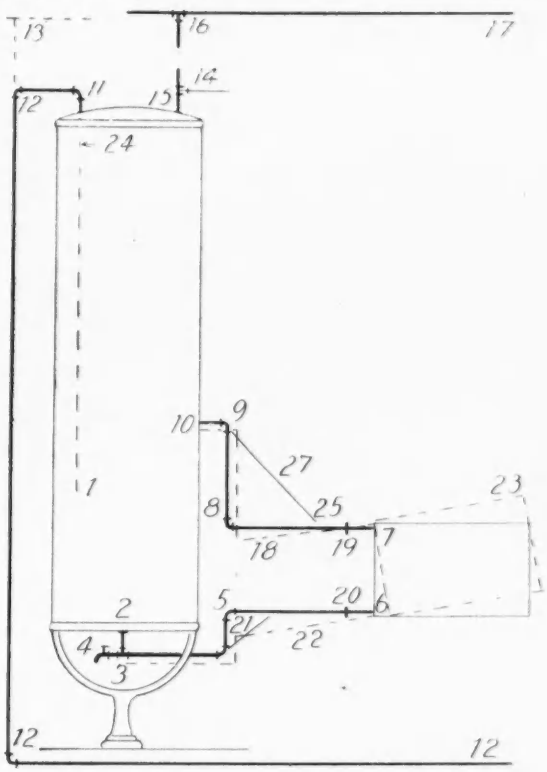


Fig. 1. The Range-Boiler and Its Connections.

21. The flow-pipe should proceed upwards for a greater distance than the measure of the drop of the boiler and, forming a loop, then drop into the top of the boiler.

22. At the top of the loop, air is liable to collect and some provision should be made to get rid of same.

23. This air pocket can be removed by the use of an air-valve, or by running the hot water pipe to some of the fixtures from the top of the loop.

24. In all of these installations the use of ½ in. pipe is inadvisable.

THE JOURNEYMAN AND HIS HELPER

JOIN HANDS FOR BETTER WORK

THE JOBBER, LEGITIMATE, OR OTHERWISE, AND HIS PROFITS.

Editor "Domestic Engineering":—I see in the issue of your paper for June 10th, that you devote considerable space to the matter of the jobbers' legitimate profit. Now though only a journeyman, at present, I am thinking of opening up a shop this fall and I would like to have this question well discussed, and as nothing of the kind has appeared in "The Journeyman and His Helper," I write from that ground and with perhaps not the insight that you big "ginks" have into the national and money affairs.

Now it looks to me as if, when this line of action got started, medium well, that the correct and proper jobber was all well; but as the thing is now run in the heft of the bunch we must ask the question, "Why the jobber?" Before it came to the pass where numbers of jobbers were jobbing goods from the front door and, at the same time, running a plumbing and heating shop, direct, from the back door, the jobber might have been considered a good thing. He was a sort of bank of deposit between the manufacturer and the merchant, and, like most all banks and people who pass out money for interest and profit, the jobber got wealthy. Whether the accommodation was worth the price or not is an open question, and it is an extremely debatable point as to whether this man is between the manufacturer and the plumber is necessary at all to the business welfare of the country. If we look at some of the gigantic mail-order houses that have sprung into existence in the past 25 years, we may conclude that there are other manners in which business may be conducted.

The mail-order business is one that is strictly within the law, it dispenses with the whole shooting-match of flunkies in business, and deals direct with the customer and, mark this, no matter how much you or I may rail at it or whatever names we may call it, the business goes right along each year continuing to pile up profits and to get the sales.

It has been said that the jobber was absolutely necessary as a go-between the manufacturer and the merchant, or the plumber; that the man who made the goods simply could not swing the debts that would come on his shoulders if he dispensed with said jobber. Say, let him sell for cash and reduce his force of bookkeepers. You say that it is impossible. Why is this impossible? Only from the custom that we have gotten into of having things charged.

Does the mail-order house sell "on tick"? Do its customers refuse to pay the cash? Every year, don't the stockholders of mail-order firms cut a big melon about the first of each January?

As to the matter of convenience in ordering goods from the jobbers, I have seen my old boss jump up and down with anger when he had ordered a bill of goods, only to have the jobber send it in about half filled with the pleasing (?) information that they had not the rest in stock and would have the rest filled by the different manufacturers, and that meant a hold-up of from several days to some weeks.

As a rule, the jobber don't job. He makes a pretense of doing so to hold the trade, but he handles, mostly, the goods that bring to him the biggest and the quickest profits and leaves the plumber out in the cold as to the rest of the order. Not all jobbers, but many. In order to get the business, he allows the goods to go on all kinds of credits and, as a result, he sooner or later has to take over the plumber's business in order to protect himself, and to get whole he must run the business. Thus, willingly or unwillingly, he enters the retail part of the deal and there are hundreds of shops in this country where in the jobber is the whole push and the master merely a figurehead, with less to say than the mere journeyman, for the journeyman can quit when he pleases while the master so situated must keep on until the debt is squared or else throw up the sponge entirely. If he does ever get square, he will not be liable to make the same mistake again. But we all make mistakes, and as one of the sharpest writers in the country puts it, "The man who has never made a mistake has never made anything else worth a damn."

So, for one, I fail to see just where the jobber comes in at all, to the good of the trade, unless you consider him in the line of a money-lender, and in such a case, why not do business with the bank direct? This same jobber is directly in the way between the maker and the consumer, and he isn't standing in that way for the fun of it nor for his health either, as is proved by the many who have made money in the business.

If you say that money is hard to get hold of and so the jobber, it merely shows that there is something decidedly wrong with the way in which money is handled in this country. They do not have the same trouble in Canada in getting money to do business with, and the people here seem to be able to find the cash to pay to the mail-order houses. I am not boosting for said mail-order houses, but they are with us and appear to have came to stay and, such being the case, they must be dealt with according to the situation. They get the business and many of the plumbers and other merchants fail so to do. How would this work?

1. Goods direct from manufacturer to plumber.

2. Cash with order, or at the depot on arrival of goods.

3. Cash in 30 days to all concerns rated at $5,000 or over.

4. The plumber who holds back $100 or more for longer than 90 days unable to get more goods until the bill was paid in full and with interest.

That would be somewhat severe, but would it be too much so, when there are only about 7,000 responsible plumbers out of some 22,000, as I take it from a statement that I saw published a few weeks ago and if I mistake not it was in your paper.

Wouldn't it be better for the trade, the customers and all the rest of us if about 10,000 of those irresponsible plumbers were out of the business entirely, or else barred out until they did get responsible?

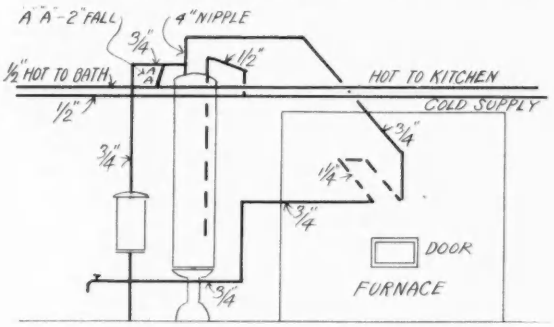
Chicago. H. C.

QUESTIONS AND ANSWERS

"WHAT IS THE MATTER WITH CONNECTION TO THIS BOILER?"

Editor "Domestic Engineering":—Will you kindly tell me what is the matter with the connection to this boiler? It is 30-gal. and is connected to the gas-heater and hot-air furnace in the manner shown in enclosed sketch. We get little or no hot-water from furnace-heater only.

The connection from boiler to heater is ¾-in. galvanized pipe, and from heater to boiler is ¾-in. galvanized



What Is Wrong With This Installation?

pipe, and the heater in furnace is 1¼-in. pipe about two feet long. When the gas-heater is in use, abundance of hot-water can be had.

Kindly suggest how to remedy the defects so that the same will produce hot-wafer either with use of hot-air furnace or gas-heater, or both.

St. Louis, Mo. A. G. Renn.

The conditions stated indicate that the coil in the furnace is either too small or improperly installed. Would suggest that a two-pipe coil be constructed similar to the letter L. Have the long part of the coil project from the side of the furnace-door, while the shorter part passes across the back of the fire-pot. Install coil so it is in the middle (vertically) of side of furnace-door This will keep coil free from being buried in the ashes, yet it will be subjected to the heat and should furnish plenty of hot-water with a very moderate fire. The writer had one so installed and always had more than enough hot-water when there was any fire in the furnace. It may be necessary to remove and drill door-frame so to set the coil.

THE HYDRAULIC RAM.

Editor "Domestic Engineering":—Will you kindly explain in your paper what a hydraulic ram is and where it can be used to advantage?

Country Plumber.

It is used for the purpose of pumping water into tanks and is run by water, possibly the same as that delivered, perhaps from some other source. It is stated that the ram will work if the stream of water has a fall of about five ft. in 100 ft. The drive-pipe to the ram should be some 40 ft. in length and iron or perhaps brass. Two rams may be used, discharging into one delivery-pipe, but each ram must have its own drive-pipe. Bends are advised in the place of ells when turns are necessary, in order to reduce the friction. In case that the ram is used in a cold country, it should be suitably protected against the frost.

TANK SWEATS.

Editor "Domestic Engineering":—An iron tank about a foot square that feeds the water pipes supplying water to cleanse three urinals sweats badly, as do the pipes mentioned.

How can I prevent this, as it has become quite a nuisance in the hot weather? Wm. Cullings.

Shut off the water and then thoroughly dry the tank and pipes. Let them come to the same temperature as the air and then wind the pipes tightly with paper, over which more paper or cloth can be put. On the tank you can paste some paper and then cloth or more paper as you choose. If a cloth of good quality be used, it can afterwards be painted and be made to look very neat, and the job will sweat no more.

WHY IS LARD-OIL THE BEST?

Editor "Domestic Engineering":—I have observed, many times, in your paper that you have advised the use of lard-oil rather than any other for thread-cutting. Why is it better than any other? I do not seem to find that you or any one else have given the reason. S. C. J.

Many oils have been tried but they do not stand the test, as they do not have sufficient body. In the use of the lighter bodied oils the pipe becomes stripped and the threads will be mighty poor.

FIRST MAKER OF COMPRESSION BIBBS.

Editor "Domestic Engineering":—I note that some one wrote to you to advise him through your journal as to who made the first compression bibbs. I started with the Peck Bros. & Co. 39 years ago, and if I remember correctly a man named Grundy made or invented the "Grundy" compression bibb.

Brooklyn, N. Y. C. H.

"DOMESTIC ENGINEERING" APPRECIATED IN GERMANY.

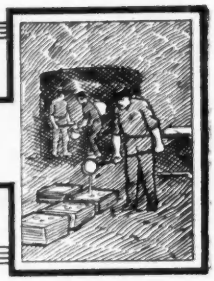
Editor "Domestic Engineering":—I am glad to have the opportunity of telling you that your paper is the best I have seen for the trades it represents. It is easy to notice that at the head of it are most capable men. Yours very truly, Heine Baumblatt.

Köln.

Algona, Ia.—Geo. Holtzbauer and Mark Sarchet have formed a partnership and opened an up-to-date plumbing establishment in the Annex building.

Dillon, Mont.—The sewer committee has under advisement an amendment to the present ordinance, providing for the appointment of a superintendent of sewers, fees in connection with his work, issuance of plumbers' licenses, inspection of all work, and several other points.

THE METAL MARKET



REDUCTION IN PIG-IRON OUTPUT.

The daily rate of pig-iron production during June fell off approximately 1,500 tons compared with the rate in May. It was smaller than any month in the last year, with the exception of December 1910 and January 1911, the daily rate being 59,585 tons, or a total production of coke and anthracite pig-iron of 1,787,566 tons. There are some excellent inquiries in the market as, for example, 30,000 tons of basic iron are wanted in Pittsburgh. Stocks increased during the month and some of the blast furnaces in the Middle West increased their stock piles by over 30,000 tons. In the New York market transactions have been more frequent and numerous orders have been placed for early shipment. In Birmingham $10 is the base price for No. 2 Southern iron, but quotations have been made for delivery during the fourth quarter on a base of $10.50. The inquiry in the Middle West is larger and some good business has developed. Prices are as follows:

No. 2 Southern foundry, Birmingham	$	$10.00
No. 1 Northern foundry, New York	15.50 to	15.75
No. 2X Northern foundry, New York	15.00 to	15.50
No. 2 plain, Northern foundry, New York	14.50 to	15.00
No. 2 Northern foundry, Chicago		15.00

OLD IRON.

While there is some inquiry for heavy-melting steel scrap, other lines of raw material are neglected. Bids will be received for about 1,000 tons of steel scrap for the Panama Railway Co. this week. Quotations are as follows:

No. 1 yard wrought, long	$11.50 to	$12.00
No. 1 yard wrought, short	10.00 to	10.50
Heavy-melting steel scrap	10.50 to	11.00
Machinery cast	11.00 to	11.50
Wrought pipes and tubes	9.50 to	10.00
Malleable castings	10.00 to	10.50
Wrought turnings	6.25 to	6.75
Cast borings	5.25 to	5.75
Stove plate	8.50 to	9.00
Light iron	4.25 to	4.75

LARGE EXPORTS OF COPPER.

The figures for the exports of copper during July have just been compiled and show that the amount was slightly more than 30,000 tons. This is much larger than usual and is greater than had been expected. Opinions differ as to the deliveries into the hands of domestic consumers, but these undoubtedly were large. The figures will be available for next week. The market is steady, and, although some sellers have been trying to obtain 13 cents for Lake, it has been possible to obtain it at 12.87½ cents. Electrolytic can likewise be had at 12.62½ cents.

LEAD.

The market is steady and firm and 4.50 cents New York is quoted by both outside interests and the principal producer. In St. Louis, the price is 4.35 cents.

A SCARCITY OF TIN.

Consumers of tin have not been buying very freely this week and prices have fluctuated within narrow limits, comparatively speaking. The total deliveries into consumption in this country during the month of June were 2,900 tons and the deliveries for the first six months of the year showed a decrease of 2,100 tons compared with the same period last year. At the same time, the total visible supplies throughout the world on June 30 were 905 tons greater than the same date last year. This shows the artificial character of the corner. Sales of tin have been made during the week at 45 to 45.50 cents.

SPELTER.

The market is again firm and prices are slightly higher at 5.80 cents New York and 5.60 cents St. Louis.

ALBANY, N. Y., HAS NEW ORDINANCE FOR STREET AND SEWER WORK.

The common council has passed an ordinance amending Chapter 29 of the general ordinances relating to private drains and sewers. Among other things, it is provided that no person, other than a duly authorized city official or employe, or a contractor carrying out a city contract, shall construct, lay, repair or do any work on any private drain or public sewer, or make any openings into or connections with any public sewer unless he shall first obtain a permit therefor from the commissioner of public works.

Applications for permits must be made on printed blanks provided by said commissioner for the purpose, and said blanks must describe the premises, the location, character of the work to be done, the time required for its completion and such other information as may be demanded by the department. Permits will be granted as provided by the ordinance, only to duly licensed plumbers who must produce certificates of competency and registration granted by the examining board of plumbers, and who also shall have furnished a bond in the sum of $5,000 in an acceptable surety company, conditioned to indemnify and save harmless the city from all loss, damage, costs or liability whatever, which the city may sustain or incur, by reason of any accident, act or omission of the person to whom such permit is granted, or any person employed by him while engaged in such employment, and performing any of the work done under or pursuant to such permit.

It is further provided that permits are not transferable and a violation of this provision shall be deemed a misdemeanor punishable by a fine of not more than $50, nor less than $25 for each offense, or by imprisonment one day for each dollar of fine so long as the same shall remain unpaid. The same penalty and punishment shall apply to any person who shall do any aforesaid work without first having obtained such permit.

The commissioner of public works has the authority to revoke the permit granted to one who has violated any of the sections of the new ordinance, or any of the other city ordinances appertaining thereto, as well as to refuse further permits to such person.

Where a violation of the ordinance is discovered by a person engaged in any aforesaid work without first having obtained a permit, the owner or agent of the property for whom such work is being done, shall be likewise held responsible, and upon conviction shall suffer the same penalties.

Heretofore the licensed plumbers both made the excavations and did the back-filling of trenches and restored the pavement necessarily disturbed. Hereafter it is proposed to let the plumbers do simply the excavating and the city attend to the back-filling and repaving.

"Domestic Engineering Cartoon" on "Whittling the Stick of Support."—No. XLV.

O YOU NAUGHTY BOY! WHITTLING FATHER'S WALKING-STICK TO PIECES. YOU BETTER COME TO THE WOODSHED WITH ME AT ONCE.
I DIDN'T MEAN TO DO IT.
PROFIT
"DOMESTIC ENGINEERING"

Oh! You Naughty Boy!

If you want to possess a special proof of this or any other of our cartoons, let us have your request at once. We have many applications for our cartoons for framing and want to take good care of all demands made.

NOW IN THE SWETLAND BUILDING.

The McDonald Vacuum & Vapor Specialty Co., of Cleveland, O., has moved its offices into the new Swetland Bldg., in that city.

ABINGDON SANITARY MFG. CO. TO INCREASE ITS CAPITAL STOCK.

At a recent meeting of the board of directors of the Abington Sanitary Mfg. Co., of Abington, Ill., held in that city, it was voted to increase the capital stock of that concern from $60,000 to $150,000.

NATIONAL STEAM SPECIALTY CO. INCREASES ITS CAPITAL STOCK.

The National Steam Specialty Co., 8-10 South Clinton St., Chicago, has increased its capital stock from $15,000 to $25,000. This increase was necessitated by the rapid growth of the company's business. The increased capital will be in the form of 7 per cent cumulative preferred stock.

TO BE THE GAYLORD SANITARY MFG. CO.

The Ideal Carriage Washer and Automatic Water Saver Co., Rochester, N. Y., after pondering the question "What's in a name?" has decided that it prefers a shorter appellation, and has applied to the courts for permission to make a change. After August 1st, therefore, it will be known as the Gaylord Sanitary Mfg. Co.

THE NATIONAL STEEL TANK CO. CHANGES NAME AND LOCATION.

The National Steel Tank Co., Pekin, Ill., has been succeeded by a new corporation, entitled the National Steel Tank & Manufacturing Co., and has moved from its old location at Pekin to new and commodious factory buildings at Bradford, Ill. This change greatly increases the capacity of its plant and the additional railroad facilities will enable the company to handle all orders with celerity.

GEORGE ATKINSON SUCCEEDS CLUM & ATKINSON.

Philip A. Clum has sold his interest in the plumbing specialty firm of Clum & Atkinson, 575 Lyell Ave., Rochester, N. Y., to his partner, George Atkinson. The firm was established in 1883 and has built up a nice business. The change took place last month and the business continued as heretofore under the old name and at the old stand.

TEST COMMITTEE OF A. S. I. P. & S. E. APPOINTED.

Martin J. Conroy, St. Paul, Minn., president of the American Society of Inspectors of Plumbing and Sanitary Engineers, has just announced the appointment of the membership of the Committee on Tests as follows: John E. Mullane, Minneapolis, chairman; Edward Quinn, St. Louis; E. H. Donahoe, Peoria, Ill.; M. J. Conroy, St. Paul; T. J. Claffy, Chicago.

AHERNS & OTT MFG. CO. PURCHASES GAMER CO. STOCK.

The Aherns & Ott Mfg. Co., of Louisville, Ky., has bought the entire plumbing stock of the Gamer Co., Fort Worth and Dallas, Tex., the estimated value being about $150,000. The Ahrens & Ott Mfg. Co. will occupy the big Gamer building, on which it has taken a five-year lease. Fort Worth is to be the headquarters for north and west Texas, the firm having branches in Memphis, New Orleans, Houston, and other large cities on the Southwest. Chas. Gamer will continue the operation of a machine shop, buildings for this purpose now being in process of erection.

WILL MANUFACTURE PLUMBERS' BRASS GOODS.

The United States Brass Co. has recently been organized in Upper Sandusky, O., to manufacture a complete line of plumbers' staple brass goods and a select line of high-grade brass specialties. The president is W. A. Gipson, who is one of Upper Sandusky's oldest and most successful business-men. The secretary and treasurer is A. B. Castanien. The general manager is J. B. Coutour, whose many years' experience in the brass business prove to be valuable and will serve to inspire confidence in the goods manufactured. Mr. Coutour is well known in the brass business and hails from Cleveland. He will move to Upper Sandusky at once in order to superintend the installation of the special machinery of the plant. Operations will be commenced in the near future.

NEW PLUMBING-SUPPLY COMPANY ORGANIZED IN ST. LOUIS, MO.

The National Plumbing & General Supply Co., St. Louis, Mo., was incorporated last week with a capital of $100,000 to take over the assets and continue the business of the National Plumbing Supply Co., at 110 South Twelfth St. in that city, which went into bankruptcy recently. The stockholders in the new company are: F. G. Turner, Geo. H. Robinson, Robert W. Moore, James R. Claiborne, William R. Scullin and Valle Reyburn. Mr. Robinson is the only member of the old concern connected with the new one. The company will continue the jobbing business at the Twelfth street house, and also operate a lead-pipe plant in East St. Louis. It purchased, at trustee's sale, the stock of the old company for $15,000, and has acquired for $20,000 bills receivable of a face value of $55,000 due the old company. It has also bought the business of the Turner Supply Co. at East St. Louis, Ill. The officers of the new company are: Geo. H. Robinson, president; Fred G. Turner, vice-president; Robert W. Moore, secretary; Valle Reyburn, treasurer.

OPPORTUNITIES FOR AMERICAN PLUMBING GOODS IN ITALY, GREECE AND TURKEY.

Bathrooms and lavatories are rarely found in Italy, Greece and Turkey except in larger hotels, writes United States Commercial Agent John M. Carson. There is, however, a growing tendency in this direction and these conveniences are being introduced into the better class of boarding houses and private residences. Lavatory and water-closet fixtures and installations are not up-to-date. The materials furnished in the Near East are mostly by

British makers and by Italian makers for Italy. American manufacturers should make a survey of this field through special representatives sent out for that purpose, or secure the services of men who are known to be competent and reliable to act as exclusive agents. Letters and literature in English will prove futile, especially against personal representation of European competitors and the presence of liberal supplies of samples. The man who can exhibit the particular article or commodity desired has a decided advantage over the man whose tender is confined to a printed catalog and oral description.

SEVEN LARGE CONCERNS MAKING HEATING GOODS CONSOLIDATE.

The Federal Heater Co. has just been organized under the laws of Delaware with a capital of $8,200,000 to take over and conduct the business of the following heating companies: The International Heater Co., Utica, N. Y.; the Peck-Williamson Heating & Ventilating Co., Cincinnati, O.; the L. J. Mueller Furnace Co., Milwaukee, Wis.; the Twentieth Century Heating & Ventilating Co., Akron, O., the Henry & Scheible Co., Cleveland, O.; the Quaker Mfg. Co., Chicago; the Ideal Furnace Co., Detroit, Mich. The capitalization of the new company is represented by $4,000,000 of 7 per cent. cumulative preferred stock of the par value of $100 a share, all issued, and $4,200,000 of common stock of the par value of $100, all issued. A total issue of $5,000,000 of common stock has been authorized. Stock valued at $800,000 is to be kept in the treasury to provide for increase in business. Holders of preferred and common stock have equal voting rights and the preferred stock, as usual, has first claim on assets and profits. The preferred stock is redeemable at any dividend period at 110. The stock is to be listed on the Chicago Stock Exchange and the First Trust and Savings Bank of Chicago is to act as trustee to receive payment for stock and issue receipts for same, etc.

The main office of the company will be in Chicago, but the individual factories are to be operated as heretofore. There is to be no reduction of output, and the combined companies will have a total output of 40,000 heaters a year. More than 500,000 heaters which have been marketed by these companies are now in use. The combined companies produce warm-air furnaces, hot-water and steam boilers for heating purposes designed for both coal and gas, tank heaters, piping, casings, fittings and registers.

The officers and directors of the new company are as follows: President, A. W. Williamson, president of the Peck-Williamson Heating & Ventilating Co.; vice-presidents, L. J. Mueller, secretary of the L. J. Mueller Furnace Co., John Kerch, president of the Twentieth Century Heating & Ventilating Co.; secretary, D. M. Compton, president of the Quaker Manufacturing Co.; treasurer, F. H. Moore, treasurer of the International Heater Co. The directors are the officers named in the foregoing and W. C. Williamson, secretary of the Peck-Williamson Heating & Ventilating Co., F. E. Wheeler, president of the International Heater Co., Byron H. Edwards, president of the Ideal Furnace Co., Charles Scheible, The Henry & Scheible Co., L. J. Mueller, Sr., president of the L. J. Mueller Furnace Co., George Maag, vice-president of the Twentieth Century Heating & Ventilating Co., and J. H. Arbogast, attorney.

PERSONAL MENTION.

S. W. Tucker, of the Cleveland Flush Meter Co., Cleveland, O., was in Philadelphia last week calling on the trade. In search of cooler places he is now spending some days among the beautiful lakes and hills in New York state.

Thos. J. Wade, son of the late Jas. R. Wade, a prominent heating engineer of St. Louis, Mo., has accepted the position of advertising manager of the Consolidated Engineering Co., of Chicago.

W. F. Magann has recently connected himself with the Sanitary Co., of Cleveland, and will call on the plumbing trade west of the Mississippi.

C. W. Stevens, of the Sanitary Co., Cleveland, O., is known as the "Rain-maker," or "Rain-in-the-Face." He is credited with the first name in Dayton, O., because he appeared just before the recent storm. The latter name belongs to him because of his association with the Paragon shower-mixer valve. He delivers a special lecture on its efficiency, entitled "Raising Human Crops by Means of Modern Irrigation." He is contemplating its publication in book form, bound in red morocco. This should be appropriate, for they often need rain in Morocco.

NEW PLANT OF THE DETROIT VALVE & FITTINGS CO.

The Detroit Valve & Fittings Co., Detroit, Mich., manufactures malleable iron fittings and special malleable and gray iron castings. The company commenced operating its plant at Detroit in the fall of 1909. Business increased rapidly, so that before long plans for a factory of considerable size were prepared. The company has recently placed in operation its magnificent new plant at Wyandotte, Mich. This comprises seven large buildings, filled with modern equipment, with 20 times the capacity of the original plant. The company owns at Wyandotte 12 acres of land, of which 5½ acres are occupied by the buildings. Excellent transportation facilities are afforded by the L. S. & M. S., the Mich. Cent. and the D., T. & I. Electric railroads. The officers of the company are: President, E. B. Whitcomb; vice-president and general manager, O. P. Benjamin; treasurer, E. O. Krentler, and secretary, J. F. Harrigan.

The Detroit Valve & Fittings Co's. New Plant.

TRADE LITERATURE RECEIVED THIS WEEK.

The Curtis & Curtis Co., Bridgeport, Conn., does not often get into print by means of catalogs, but when it does, it does so with the thoroughness which characterizes all the work of the Curtis & Curtis Co. The Forbes' patent die-stock and pipe-cutting and threading machines, for hand or power, are the subjects of the new catalog recently sent out by the Curtis & Curtis Co. First, the catalog recapitulates the difficulties encountered by the average pipe handler in cutting or threading pipe, particularly in the large sizes. You know most of these yourself, so we won't go over the ground so ably covered in the catalog. Having laid the foundation, a vigorous attempt to establish business relationship with you is made on the succeeding pages. Special illustrations show the Forbes patent die-stocks and describe their construction and the efficiency obtained by their use. Then follows the presentation of the cutting and threading machines. You can boil down everything that is said into one statement made by the company, which proves sufficient to interest the reader in applying for the catalog. The Curtis folks say: "One man can cut off and thread 12-in. pipe by hand. No extra vise required." Now if you want to know about it, write for the catalog right away, and put the initials "D. E." in the corner of your letter.

The Louis Lipp Co., Cincinnati, O., manufacturers of plumbers' goods and first-class catalogs. Plumbers' goods remain all the time. Catalogs happen when Louis Lipp, the president of the company, and Albert Weil, the secretary and treasurer, hold a special meeting to determine that the world should know something more about the Lipp products. The latest presentment of the Lipp sanitary specialties are shown in catalog K. The first paragraph sounds promising: "Please insist on our products having our guarantee label at all times." We can't conceal our thoughts, we like garantee labels. They stand for those that stand behind the products. The catalog commences with special bath-room displays, giving all

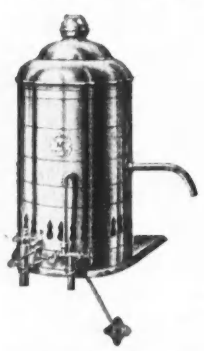
details and specifications of equipments and costs. The Empire iron-enameled ware and others are shown, and various types of closet-combinations are presented in an effective way. The Harrington automatic gas water-heater is interesting, and the manufacturers claim that it is the smallest and most effective on the market, furnishing two gallons of hot water a minute with 2 cu. ft. of gas. This kind of weather, the most interesting pages are found on 119 to 126. They are devoted to the "Lolico" showers. Complete copy of this catalog can be obtained upon application to the company. When you write, mention "Domestic Engineering."

The Ansonia Brass & Copper Co., 99 John St., New York City, has issued a booklet describing its "Tobin Bronze." "Tobin Bronze" is a combination of copper with other metals. It is rolled hot to secure a high elastic strength, great tensile strength, hardness and a uniform texture. It is used for pump piston rods and plungers, valve stems and faces, disc valves for pumps, and many other purposes, all of which are set forth in the booklet, accompanied by a presentation of the tests of tensile strength, specific gravity, crushing strength, torsional strength, transverse strength, electric welding, and acid and steam tests. Those interested in material of this grade can obtain specific information concerning its application to their purposes by writing to the Ansonia Brass Co. Say "Domestic Engineering" told you about it.

The Morgan Spring Co., Worcester, Mass., has recently sent out two little booklets, advertising its wire and springs, and its "Eclipse" pipe-hangers, beam clamps, and hanger couplings. The company makes a specialty of many varieties of high-grade wire. Its vanadium wire is particularly well adapted to automobile springs. The wire and spring booklet is full of interesting illustrations of the different spring products made by the company. The "Eclipse" pipe-hanger consists of two parts only; the ring, which is a formed steel wire, and the yoke, which is a steel stamping. The ring fits behind the shoulder in the yoke and the two parts cannot be separated without a deliberate compression of the neck of the ring. These pipe-hangers can be adjusted easily to the height desired. For indirect radiators, a special heavy hanger is supplied, each hanger having a breaking strength of about 2,000 lb. and strong enough for radiators up to 200 sq. ft. capacity, steam or water. Copies of both these booklets can be obtained upon application to the company. When you write, mention "Domestic Engineering."

THE "OHIO" HEATERS.

In a recently issued booklet, the McCormick Mfg. Co., Dayton, O., describes the different types of gas water-heaters manufactured by that concern. Of special interest is the "Ohio A," a famous water-heater which is made



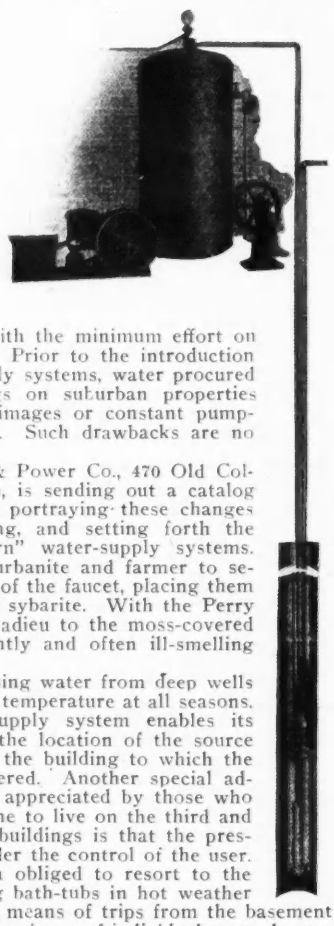
The "Ohio M" Water-Heater.

entirely of 16-oz. copper, heavily nickel-plated, and equipped with safety valves and pilot light, so the gas cannot be lighted without the opening of the water valve. An especial feature of the heater is that it requires no vent-pipe or drip-pipe. This is also true of the "Ohio M" heater, which differs from the "Ohio A" only in capacity. For these heaters there are claimed the following features of merit: They are odorless; have no condensation or dripping in the chamber; require neither a vent-pipe nor drip-pipe, thus saving labor and material, and avoiding insurance regulations. The booklet also describes the other types of heaters manufactured, including range-boiler heaters, and of special interest may be noted in the pages of supplies an air-duct vent-pipe, which is a double pipe to telescope over the other with an air space between, and is designed to meet the requirements of users of heaters which call for vent-pipes. Complete copy of this booklet may be obtained upon request by mentioning "Domestic Engineering."

PNEUMATIC WATER-SUPPLY SYSTEMS.

An adequate supply of fresh water is a universal human necessity. It is further desirable that the supply can be

The Perry Pneumatic Water-Supply System



obtained constantly with the minimum effort on the part of the user. Prior to the introduction of modern water-supply systems, water procured from wells or springs on suburban properties involved tedious pilgrimages or constant pumping into storage-tanks. Such drawbacks are no longer necessary.

The United Pump & Power Co., 470 Old Colony Building, Chicago, is sending out a catalog and attractive leaflets, portraying these changes in sanitary engineering, and setting forth the merits of its "Modern" water-supply systems. These enable the suburbanite and farmer to secure water at the turn of the faucet, placing them on a par with the city sybarite. With the Perry systems, they can bid adieu to the moss-covered bucket and the unsightly and often ill-smelling water-storage tank.

One advantage of using water from deep wells is that it has the same temperature at all seasons. A pneumatic water-supply system enables its placing regardless of the location of the source of water-supply or of the building to which the water has to be delivered. Another special advantage which will be appreciated by those who have had the misfortune to live on the third and fourth stories of city buildings is that the pressure is at all times under the control of the user. People who have been obliged to resort to the arduous work of filling bath-tubs in hot weather as a storage supply by means of trips from the basement will appreciate the convenience of individual control pressure. In such cases where the user has influence with the landlord, a pneumatic water-supply system could readily be called to the rescue.

Full description of the Perry installations can be obtained upon request and a study of the literature may easily open up new avenues of business to live plumbers. Mention "Domestic Engineering" when writing.

WANTS CATALOGS OF PLUMBING GOODS.

A. Baker has just opened an up-to-date plumbing establishment at Turnerville, Conn., and he would like to receive catalogs from jobbers and manufacturers of plumbing goods.

PACIFIC COAST LETTER

San Francisco.

The controversy between the journeymen plumbers and steam-fitters of this city over the matter of jurisdiction in regard to the work connected with the laying of steam-pipes in the streets of the city continues, and considerable ill feeling between the members of the two local organizations is being displayed. Mayor McCarthy has ruled that the work in question be done by both steam-fitters and journeymen plumbers, an equal division to be made, but the plumbers assert that it is against their by-laws to divide work with the members of the union of another craft, and insist in doing all the work or none. The steam-fitters are complaining that they are discriminated against by the mayor, and allege that the reason is because of the fact that they are affiliated with the branch of the building trades which at times has opposed the actions of the branch of which the mayor is the head. Political capital is being made of the matter, and there is more or less dissension in the ranks of union labor as a result. Recently three steam-fitters employed in the repair of the pumping-plant at the alms-house were discharged and civil service plumbers substituted, the claim being made that this work must be done by civil service men. Michael Casey, president of the Board of Public Works, states that the change was made at the request of the civil service commissioners.

Kierman & O'Brien have commenced work on the plumbing of the Lincoln school building, their bid of $4,094 for the work having been accepted some time ago.

Bids are being invited and contracts will be let shortly for the installation of the plumbing and heating systems in Engine House No. 44, now in course of erection. Bids will be invited shortly for the plumbing of the pumping station to be erected at the foot of Van Ness avenue to supply water for the auxiliary fire protection system.

H. W. Moffatt & Co., heating and ventilating engineers, have taken a three years' lease on a store and basement at 181 Minna St., for $1,800.

Work will soon be started by Mangrum & Otter, Inc., on the installation of the heating and ventilating system to be placed by this concern in the Agricultural Building now in course of erection at the State University at Berkeley, across the Bay from this city. This contract was secured a short time ago, its valuation being placed at $6,455. The Regents of the University of California will shortly award another contract for the heating system, this to be installed in a two-story hall building to be erected at an early date.

Contracts will be awarded within a few days for the plumbing and heating work to be done in a seven-story rooming-house building to be erected by the O'Sullivan Estate Co., on Fourth street, near Minna.

The O. Kurtz Co. has been awarded the contract for the installation of the plumbing, gas-fitting and sewering in a three-story structure being erected by E. D. Peixotto on Broderick street, near Haight, the contract being valued at $2,296.

Condon & Band have contracted to install the plumbing system in a building being erected by John McAgar on Market street, near Spear, the contract being valued at a little under $1,000.

H. W. Moffatt & Co. have been awarded the contract for the installation of the heating system in a five-story hotel structure being erected by Grace S. and J. Underwood Hall at Sixth and Tehama streets, the consideration mentioned being $2,140.

H. J. Perazzi has been awarded the contract for installing the plumbing and gas-fitting in a five-story building being erected by George S. Crim on Kearny street, near California, the contract being valued at $6,649. The heating system is to be installed by the John G. Sutton Co. for $2,780.

M. Levy, the popular Sutter street plumber, has been awarded a contract valued at $7,250 for the installation of the plumbing system in the building being erected by G. P. Allen on Sutter street, near Polk.

The Turner Co. has been awarded the contract for installing a steam-heating system in the apartment-house being erected by P. Noble on Taylor street in the Nob Hill section, the contract being valued at $1,437.

J. Jacobs is preparing to commence work on the plumbing of the structure being erected by Anna Legge on Eighth Avenue at Lake street.

Work is to be commenced at an early date on the erection of the 11-story structure to be erected at Montgomery and Sutter streets by the San Francisco Investment Corporation. William S. Snook & Son have the plumbing contract and the John G. Sutton Co. has the steam-heating and ventilating work. The former contract is valued at $8,840 and the latter at $2,940.

A. Davis has contracted to install for $5,080 the plumbing system for a five-story structure to be erected by Julius Hetty on Ellis street, near Jones.

J. Looney has secured a contract valued at $2,790 for the plumbing for a three-story building being erected by E. B. Hindes at Clara and Sixth streets.

An army post of 11 buildings is to be erected at an early date in the Yosemite Valley, these to be equipped with the latest plumbing. There will be no heating system.

Other Pacific Coast Happenings.

Lindsay, Cal.—This city, the home of the early orange, has voted bonds for the installation of a complete sewer system and to take over the present privately owned water works. This place is growing very rapidly and a large amount of plumbing work will be be done as soon as the sewer system is installed.

Oakland, Cal.—A fine new depot is to be established shortly at 16th street by the Southern Pacific Railroad and bids will be invited shortly for the installation of the plumbing and heating work.

Pearl Harbor, T. H.—Bids are being invited for the erection of a naval station, which will consist of administration buildings, machine shops, power house, foundry, plumbing and sheet metal shops.

Salem, Ore.—An appropriation of $10,000 made some time ago by the state legislature of Oregon is now available for the installation of a filtering plant for the state insane asylum and bids will be invited shortly for this work. The Pacific Heating & Engineering Co. has been awarded the contract for the installation of the heating plant in an addition to be made to the state hospital for the insane, the contract being valued at $1,447.

Astoria, Ore.—J. H. Hansen is installing a complete system of plumbing and heating in the apartment-building being erected by Chas. Niemi, and also the plumbing in the residence being built by F. A. Fisher.

Portland, Ore.—Contracts for a branch office of the Water Board in Upper Albina have recently been awarded as follows: Plumbing, Schade Bros.; heating plant, Swanby & Schneider; wiring, Hassalo Engineering Co.; elevator, Otis Elevator Co.; lighting fixtures, M. J. Walsh.

MASTER PLUMBERS' ASSOCIATION OF ASTORIA, ORE.

The master plumbers' association of Astoria, Ore., is in a flourishing condition. The officers for the current year are as follows: President, S. H. Willett; secretary, W. N. Smith; treasurer, J. H. Hansen. Meetings are held regularly every Wednesday evening. All citizens of Astoria are taking great interest in the centennial celebration to be held in Astoria from August 10th to September 9th. The representative of "Domestic Engineering" was escorted by Mr. Hansen to the grounds where the exercises are to be held, and where a duplicate of the old fort is being erected, fittingly to commenorate the scenes of a century ago. The master plumbers of Astoria are planning to entertain many visitors during the month of the celebration.

PITTSBURGH AND VICINITY.

The Reliance Heating Co. secured a nice contract when it was awarded the heating work in the new three-story hotel to be built by John J. Cella in the East End district. This will be a steam heating plant. A hot-water heating system will also be installed in the new home of Eugene Heard in the East End district.

At the office of William G. Boyle, in the Lewis Block, bids are being asked for the installation of a heating and ventilating system in the high school building at Toronto, O.

Beaver Falls, Pa.—The partnership that has existed between T. K. King and W. L. Braden has been dissolved. Mr. King will continue.

New Castle, Pa.—H. R. Dunlap has just bought a new business block at a cost of $12,000. The building occupies a site 20 by 180 and is three stories in height.

The following contracts for plumbing, lighting, ventilating and heating have been awarded in the Pittsburgh district recently:

Imperial, Pa.—H. A. Berry, heating in $11,000 Presbyterian church.

Washington, Pa.—Brice Bros., heating in $5,000 dwelling for Dr. G. B. Woods.

Ridgeway, Pa.—W. W. Carmon, plumbing and heating in residence for Charles Lockhart.

St. Marys, Pa.—William Gaffney, heating in remodeled residence for Mrs. Julia Walker and plumbing in $8,000 store for Vincent Lombard.

Bradford, Pa.—A. D. Burns, heating in two new dwellings being erected for Marshall K. Walker.

Washington, Pa.—Charles Stough, heating in $4,500-residence for Theo. De Vera.

Tarentum, Pa.—Iseman Plumbing Co., awarded work in $3,000 residence of V. Renouff.

Connellsville, Pa.—Young Plumbing & Heating Co., plumbing and steam heating system in the new Perry Township high-school. This company will also do the plumbing and gas-fitting in Irwin Rouser's new home.

St. Marys, Pa.—Hall & Kaul, plumbing in new $8,000 store owned by Thomas Marsh.

Wilkinsburg, Pa.—Buerkle Plumbing Co., of Pittsburgh, plumbing in apartment being erected by Mrs. J. Diamond.

Cannonsburg, Pa.—W. J. Elliott, plumbing and heating in two dwellings being erected for Bruger & Donaldson, and also in a new $25,000 residence.

Pittsburgh.—Anderson & Darragh, heating in the new office building for the Waverly Oil Co., while the lighting goes to the L. H. Nielson Co.

Pittsburgh.—Pittsburgh Heating Co., heating work in new $75,000 home being erected by Howard Heintz, one of the owners of the "57 varieties."

Johnstown, Pa.—The Johnstown Engineering Co., contract for heating work in $15,000 store building going up for Louis H. Opperman. The Citizens' Light, Heat & Power Co. will do the lighting work. The Standard Supply Co. the plumbing work.

Tarentum, Pa.—W. S. Alter, heating in $3,000 residence going up for Joseph Lunge.

Philadelphia, Pa.—Geo. B. Grey, 115 S. 16th St., has recently been awarded the following contracts: Plumbing and gas-fitting in alterations and additions to 1730 Chestnut St.; plumbing in new Southwark Branch of Carnegie Library at 5th and Ellsworth streets; plumbing and gas-fitting in alterations to 4611 Springfield Ave.; plumbing and gas-fitting in alterations to 4109 Walnut St.; plumbing in garage for Gulf Refining Co., 58th and Botanic Avenue; plumbing and gas-fitting in alterations to 2813 Girard Ave.; plumbing in alterations to Presbyterian Home for Aged Couples at 58th and Greenway Avenue; and plumbing in alterations to residence at Green Tree.

NEWS FROM OHIO.

Cleveland.—The Metropolitan Gas and Electric Fixture Co. has been incorporated with a capital of $5,000 to deal in gas and electric fixtures and appliances and install the same. The incorporators are F. B. Arnold, C. W. Schaefer, E. D. Ray, H. Miner and F. A. Laudry.

Oak Harbor.—The citizens on June 20th voted to issue bonds in the sum of $35,000 for the building of a water-works system.

Sandusky.—A contract for the construction of a boiler-room for the Eighth Ward school building has been awarded by the board of education to Alfred Schnurr & Walsh Bros., at $6,190.

Lucasville.—The village has started a movement for the building of a water-works system. A number of the public-spirited citizens of the village has organized the movement with the following on the committee: Alonzo Purdy, W. E. Purdy, J. O. Funk, R. J. Smith, Cal Anderson and Joseph Yeager. Work has been started to build a reservoir on a hill-top on the Thomas estate near the village.

NEW ENGLAND NEWS.

Massachusetts.

Peabody.—A. J. Sanford of Salem has been awarded the contract for installing the heating and ventilating system in the new schoolhouse in South Peabody. A low pressure steam gravity system of heating will be used.

Marlboro.—Philip P. Martin and Lewis Rivers, who were for several years associated with the late Edward Harlow in the plumbing business, have opened an establishment of their own for conducting the business of plumbers, tinsmiths and steam-fitters. The firm name is Martin & Rivers and the headquarters are in the Richardson & Pease building.

Northampton.—The contract for heating the new Woodward apartment building on Elm street has been awarded to Brownwell & Dickinson and that for plumbing to W. H. Riley & Co.

Rhode Island.

Providence.—The city council is to consider an appropriation of $7,000 for two new boilers to be installed in the Technical high school building. Eventually it is proposed to heat the primary school close by and the three high school buildings from the one plant.

New Hampshire.

Portsmouth.—As a result of several conferences between a committee composed of members of the city council, representatives of the Master Plumbers' Association and the Plumbers' and Steamfitters' Union, new plumbing ordinances have been drafted. In the new ordinances the "special permit" feature, which the plumbers alleged allowed of discrimination in the awarding of contracts, is eliminated. The new ordinances also provide more sanitary arrangements in regard to vent-pipes.

Newmarket.—The contract for installing a steam heating plant in the South Side school house has been awarded to John H. Griffin.

Connecticut.

New Milford.—E. P. Martin, plumber, steam fitter and sheet metal worker, who has occupied quarters in the Wright block on Railroad street for the past four years, has moved his establishment to a new location elsewhere on the same street.

Hartford.—The board of contract and supply, failing to receive satisfactory bids for the plumbing of the high school after twice advertising for them, has voted not to do all of the work this year. Part of the work will, however, be done and bids for this are under consideration.

CONTRACTS AWARDED.

Metropolis, Ill.—E. E. Stevens has secured a contract to install a heating plant in the Golconda State Bank building at a cost of $1,700.

Sioux Falls, S. Dak.—The Symms-Powers Co. has been awarded the contract to install plumbing in the county jail, the amount of the contract being $5,000.

Columbia, Mo.—N. A. King was the successful bidder on the plumbing and heating work on the Audrain County Infirmary.

Lonoke, Ark.—W. S. King has been awarded the contract for plumbing and heating the Lake Shore Hotel, at Lake Village. The contract amounts to $3,475.

Washington, Ia.—The contract for plumbing the new Washington County hospital has been awarded to Fred Stewart at $2,249, and the contract for the wiring to the Iowa Gas & Electric Co.

Conway, Ark.—The Grummer Hardware Co. has the contract for installing plumbing in the main building of the Hendrix College. The contract includes four bathrooms with lavatories, etc., and a complete sewerage system for the building.

Newport, Ky.—Geo. H. Fennell has in hand contract for heating in the new factory building of the American Diamalt Co. at Riverside.

Fairbury, Ill.—J. E. Eddy has the contract for installing a heating plant and doing the plumbing work in the parochial school building at Utica, Ill. The work will require several weeks for completion.

Champaign, Ill.—The branch here of the Danville firm of Carson-Payson & Co. has obtained several contracts recently, including the plumbing work on the remodeled Spalding & Quirk block, the remodeled J. F. Crosby home, Lawrence Hughes' house and A. G. Singbush's house, and the cottages for Dr. Bennet and Mrs. Gulick.

St. Louis, Mo.—N. J. Seibel, 6119 Easton Ave., has received the contract for plumbing in the Clayton Hotel, Clayton, Mo., amounting to $22,000 for 106 rooms.

Alton, Ill.—The Alton Plumbing & Heating Co. has the contract to install the new heating plant in St. Joseph's Hospital. The contract calls for a vacuum heating system and the best of its kind. The amount of the contract is $4,200, but it is expetced that the cost will probably be about $5,000, including the accessories.

Brighton, Ia.—The school board has awarded the contract for the new heating plant at the Wilson Heating Co., of Washington, Ia., for $1,386.

Jacksonville, Fla.—Coons & Golder have been awarded the contract for installing plumbing, gas-fitting, fire-protection and an ice-water plant in the mammoth Cohen department store. The contract amounts to $25,000, and will be under the direct supervision of Mr. E. G. Golder. Altogether there will be 377 nickel-plated fixtures throughout the building. The newest models in enamel and vitrified china will be used. On each floor will be a sufficient number of drinking-fountains to meet all requirements, supplied with water from an artesian-well on the premises. The water is to be pumped to an immense concrete tank on the roof and there aerated. The fire-protection system is to be one of the most modern in the United States, including five stations on every floor. The firm of Coons & Golder has recently completed several large contracts, including work on the Y. M. C. A. and the Atlantic National Bank building.

TENNESSEE NOTES.

Nashville.—The David Grewar Co., Fifth avenue, has furnished a new show-room and the plumbing and electrical departments attract much attention.

Chattanooga.—In the Hamilton National Bank building, one of the most elaborate sky-scrapers in the South nearing completion, the plumbing was done by M. F. Rourke Co., of Knoxville. The heating was done by the Lookout Steam-Heating & Supply Co.

Humboldt.—Herman Lannom, a plumber and electrician, is erecting a new concrete building for his business.

Nashville.—Herbrick & Lawrence, have just finished a plumbing and electrical work contract for Mrs. B. B. Allen.

McKenzie.—J. W. Robertson has recently opened a plumbing shop here.

CONSIDERABLE INTEREST IN THE BOSCH CO.

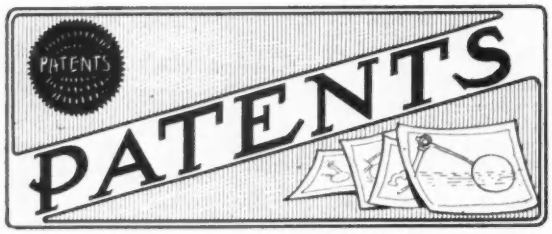
Chas G. Bosch, Burlington, Ia., well known to the master plumbers of the Iowa Association, recently perfected a new coupling by his marriage to Miss Clara Lau at Burlington. Friend Bosch didn't intend anybody to know anything about it. The device was properly tested by the officiating minister and was pronounced perfect, but was not subjected to a peppermint test. After the wedding they left for St. Louis and then proceeded to Galveston to attend the national convention. The business friends of Mr. Bosch saw to it that telegrams of notification preceded them. They were overwhelmed with congratulations immediately upon their arrival. Mr. Bosch has been engaged in the plumbing business in Burlington since 1883. It will be remembered that he succeeded J. F. Garvey, of Mason City, as president of the Iowa Master Plumbers' Association. He has a host of friends in the business and is a member of the Burlington Five Million Club, and is also a baseball rooter of rare voice. He has the reputation of knowing a good thing when he sees it, and has justified it in the minds of his friends by his recent choice. Brother Bosch and his seven-eighths have "Domestic Engineering's" best wishes.

OBITUARY.

Joseph B. Breen.

On July 10th occurred the death of Joseph B. Breen, well known in plumbing circles in Chicago and elsewhere. For some years Mr. Breen conducted a plumbing establishment in Chicago, and in 1896 he served as president of the Chicago Master Plumbers' Association. A few years later he moved to Kalamazoo, Mich., where he conducted a successful plumbing business for several years, and as a result of his active interest in associational work in Michigan he was elected secretary of the State Association. After spending some years in Kalamazoo, he concluded to return to his many friends in Chicago, and during Mayor Busse's administration was made plumbing inspector. Mr. Breen died at his home, 1221 Millard Ave., Chicago, from bronchial pneumonia. He is survived by three brothers, one of whom, Fr. P. N. Breen, S. J., is president of St. Ignatius College. Two other brothers are also priests. Mr. Breen left a widow and four children, Winifred, Mary, Joseph and Paul.

The Late Joseph B. Breen, of Chicago.



988,369.—Anti-siphoning Trap. Andrew M. Morrison, Dubuque, Ia. A trap comprising a casing having an interior threaded flange and a supporting shoulder, a cup threaded at its upper end in said threaded flange and open at its lower end, an interior seat around the aperture, a float ball in the cup adapted to seat on said seat and a cup disposed between said cup and the casing having a peripheral flange to rest on the supporting shoulder, said cup apertured below the flange.

988,385.—Steam-Trap. James Edward Purser, Windsor, Ontario, Canada, assignor to Herbert J. Morehead, Detroit, Mich. In a steam trap, a tilting tank, means for separately leading both condensation and steam to the tank, a weighted lever pivoted to the tank and fulcrumed to provide a movement of the end of the lever relatively greater than that of the tank in tilting, a valve governing the admission of steam to the tank, a lever controlling the operation of said valve, and means carried by the first named lever for actuating the steam valve lever upon the tilting of the tank.

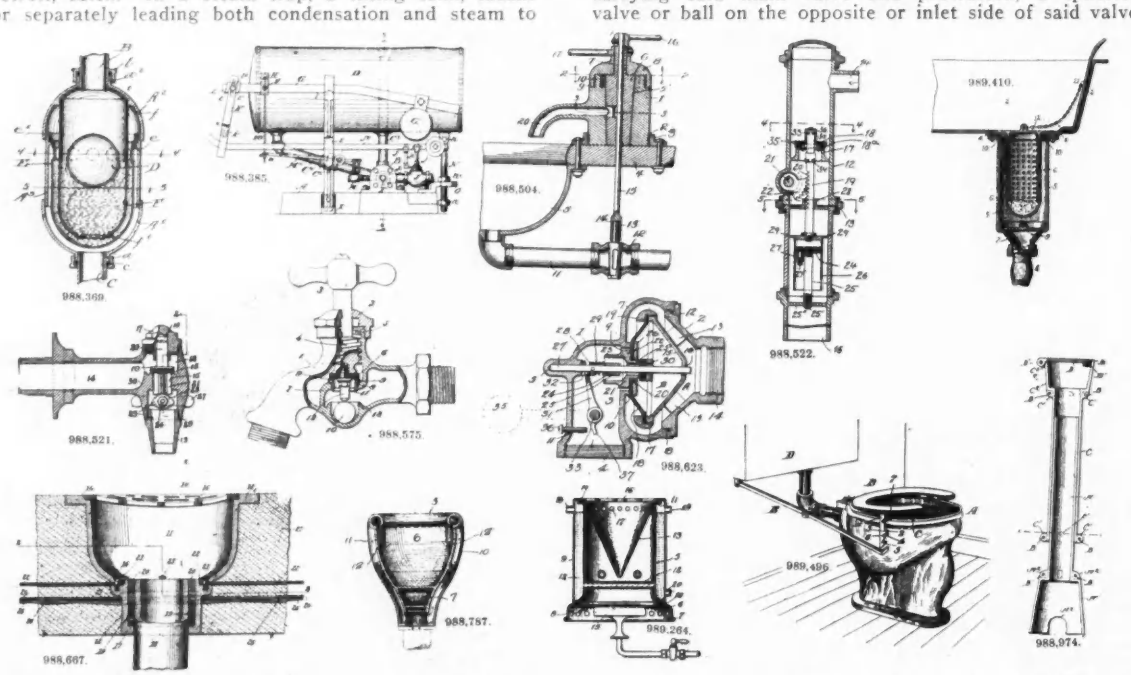
988,504.—Faucet. Charles A. Pride, Tompkinsville, N. Y. A valve comprising a support having an interiorly threaded portion, a casing having an exteriorly threaded lower portion engaged in the threaded portion of the support, an exteriorly threaded flange at the upper end of the casing, a cap interiorly threaded to receive the said flange, a rotatably mounted plug mounted in the casing, a handle secured to the plug, a discharge nozzle opening at its inner end directly onto the plug, liquid inlet connections secured to the casing and opening directly onto the plug, the said plug having a port formed therein provided with branches for independent or multiple registration with the nozzle and with the liquid inlet connections of the casing, and coöperating stops on the plug and flange of the casing respectively for limiting the rotary movement of the plug.

988,521.—Faucet. Edwin L. Thurston, Boston, Mass. A faucet comprising a casing having a removable bib, a shaft mounted in said casing close to the point of connection of the bibb to the casing, a cam removably mounted on the inner end of the shaft, and a valve adapted to be actuated by said cam.

988,522.—Flushing Apparatus. Edwin Langdon Thurston, Boston, Mass. A flushing apparatus comprising an elongated conduit having an inlet at one end portion and an outlet at its opposite end portion, a valve seat adjacent to the inlet and a fixed piston between the valve seat and the outlet, a valve adapted to be closed on said seat by liquid pressure, said valve having a sleeve, a tubular stem extending through said sleeve and provided with an inverted dash-pot fitting said piston and movable thereon, an air passage being provided for the admission of air to said dash-pot, said tubular stem having openings near its upper end and also below said sleeve and having a limited sliding movement in the sleeve.

988,575.—Faucet and Valve. Maurice E. Joyce, Washington, D. C., assignor of one-half to Gaius M. Brumbaugh, Washington, D. C. The combination of the valve-case or shell, a valve-seat therein, a main valve controlling the passage therethrough and adapted to seat upon the outlet side thereof, said main valve having a protrusion adapted to project into said passage, a valve-stem carrying said main valve and protrusion, a spherical valve or ball on the opposite or inlet side of said valve-seat adapted to seat there against under the fluid-pressure when the valve-stem withdraws said main valve and protrusion, and a cage integral with and upstanding from the case for confining the motions of said ball and preventing lateral dislocation thereof.

988,623.—Flushometer. Walter H. Bowman, Dover, N. H. A valve mechanism having an outlet, a delivery chamber with an inlet, a discharge outlet from the delivery chamber, a valve chamber within the delivery chamber, one of the inclosing walls of which consists of a flexible diaphragm, which diaphragm is adapted to close the discharge outlet, an element with a passage therethrough movable with the diaphragm, a valve stem, a valve carried by the valve stem and adapted to close the passage through the said element movable with the diaphragm, and means for moving the valve stem and unseating the valve so fluid can pass from the valve chamber through the element movable with the diaphragm; there being an opening from the delivery chamber to the interior of the valve chamber for the passage of fluid from the former to the latter, and the valve stem being located within said opening whereby its movements will dislodge any foreign matter which may become lodged in said opening.



988,667.—Cesspool. George W. Schodde, New York, N. Y., assignor, by mesne assignments, to Milton Schnaier, New York, N. Y. A cesspool comprising a receptacle divided horizontally to form a lower section, and an upper section supported upon said lower portion, a flashing interposed between said sections and extending outwardly therefrom, and means for securing said sections and flashing together, substantially as specified.

988,787.—Closet-Bowl. Charles H. Kimble, Trenton, N. J. A closet-bowl provided with an overflow duct, the major portion of which is arranged on the exterior of the bowl and medially provided with a goose-neck, one end of said duct being extended laterally and inwardly and leading through and communicating with the flush inlet of the bowl and a goose-neck depending from the flush inlet of the bowl and located on the inner surface of the bowl and forming a continuation of the inner end of the duct, the opposite end of the duct communicating with the lower end of the down-take of the bowl.

988,974.—Stop-Cock Box, Hydrant, and Street-Washer. Frederick Chapman, Brooklyn, N. Y. A device of the kind described, comprising an upper section having an expanded top, said top having an interior lug provided with a threaded aperture, a cover hinged to said top, a screw carried by said cover and adapted to engage the threaded lug, a lower section having an expanded base, said upper and lower sections telescoping, and a set screw for securing said sections in any desired adjustment, each section consisting of two longitudinal halves bolted together.

989,140.—Ceiling and Floor Plate. Arthur C. Gaynor, Bridgeport, Conn.

989,188.—Thermostatic Cut-off Device Gas-Burners. Julius W. Peplinski, Erie, Pa.

989,264.—Hot-Water Heater. Abraham Kamenetzky, New York, N. Y. The combination in a hot water heater, of an upright casing forming a combustion chamber, a gas or vapor burner located in the lower portion of the casing, a water jacket surrounding the casing, said casing having a depressed seat at the top, a conical heat deflector extending into the casing to a point above the burner and having an external flange resting on said seat, and a perforated lid seated on the flange of the deflector.

989,410.—Strainer for Sink-Outlets. Harry A. Peters, Vancouver, British Columbia, Canada. In combination with a sink having a depressed portion provided with a drainage aperture, a tubular casing having a flange at one end secured beneath the sink over said aperture, a strainer having a flanged end to rest on said sink within said depressed portion and project into said casing, said casing having a seat at its lower end, a strainer plate removably held in said seat, a rigid handle secured to said strainer flange and projected upwardly beyond the upper edge of the sink, said handle being bent to conform closely to the outline of said sink and lie in close proximity thereto, and a removable cover for said flanged strainer.

989,496.—Flushing Apparatus. James Earl Furlong, Graysville, Tenn. In flushing apparatus for closet-bowls, a pivotally mounted spring controlled seat for the bowl, a valve controlling lever, a pivotally mounted actuating element supported by the seat and constructed to engage the valve controlling lever of the flushing apparatus when pressure is applied to the seat and to actuate the valve lever on movement of the seat to its normal position, and means located in the path of the said movable element to move the same to disengaged position from the said valve controlling lever of the flushing apparatus on movement of the seat to its normal position.

Schenectady, N. Y.—F. J. Turck & Co. have been incorporated with a capital of $1,000, to engage in the plumbing and heating business. The directors are: Fred J. Turck, John H. Paynter and Willis W. Roe.

New York, N. Y.—The Eastern Sanitary Mfg. Co., to manufacture and deal in plumbers' supplies, etc., has been incorporated with a capital stock of $150,000, by A. W. Shipman, Arthur H. White and F. N. Dede.

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D. D. LEWIS CHIEF PLUMBING INSPECTOR OF COLUMBUS, O.

D. D. Lewis was recently appointed chief plumbing inspector, at a salary of $1,800 a year, and has resigned as a member of the city council to accept this new position. Mr. Lewis with others took the examination, and was one of the two who passed, his appointment following at once.

A NEW LOCAL ORGANIZED AT CATSKILL, N. Y.

Pres. John H. Moran, of Albany, of the New York State Association of Master Plumbers, reports the organization of a new local association at Catskill, consisting of the following officers and members: President, Harry Boyne; vice-president, J. F. Barnard; secretary, H. J. Jones; treasurer, Mr. Spencer. Members: Adams & Spencer, J. F. Barnard, C. Beardsley & Son, Harry Boyne, Day & Holt Co., H. T. Jones & Son.

THOMAS J. YOUNG IN LOCAL POLITICS.

The many friends of Thomas J. Young will be interested to know that he has his lightning-rod up for the nomination of commissioner of Mobile, Ala. He actively supported the commission-government plan, and worked ardently in the recent campaign, as he has in many others. This time his friends want him to share in the honors of the result he helped obtain. Mr. Young has lived in Mobile all his life. For 54 years the name of Young has been connected with the plumbing business in Mobile, Mr. Young's father, the late James R. Young, coming there from Scotland in 1857. Thos. J. Young started at the bottom of the ladder 29 years ago, as an apprentice with J. T. Palmes & Co., rising round by round to the dignity of master plumber. The firm of Simmons & Young was founded 18 years ago, and has been one of the leaders in its line for many years. Mr. Young has many friends in associational circles, being one of the most prominent members of the national organization. He has been an officer in the Mobile local for 15 years, and in the state association for 10 years. For six years he has represented the South on the national Board of Directors. Mr. Young has not confined his activity, however, to trade circles only, for he is a 32d degree Mason, and a hard worker in the Mystic Shrine. He is also a member of the Woodmen of the World, and of the Fraternal Union of America.

HERE AND THERE IN THE PLUMBING AND HEATING TRADE.

Trenton, N. J.—Harry Haverson and M. Gilinsky have contracted with Ellsworth Corbett for the installation of the heating plant in the Broad St. Theater, the contract-price being $2,840. The Trenton Heating & Plumbing Co. has the $2,265 contract for the plumbing work.

Blue Earth, Minn.—Fred Benson, who has for several years been engaged in the plumbing and steam-heating business with his brother Ben, has left to accept a good position with a firm in Spencer, Ia., in the same line.

Oklahoma City, Okla.—The Independent Plumbing & Heating Co. has been incorporated by J. Beach, H. F. Cooper and H. E. Ward. The capital stock is announced as $4,000.

Omaha, Nebr.—The master plumbers had a glorious outing on July 1st at Ralston, on Seymour Lake. To the number of about 150, including of course wives, actual and prospective, and children, they met at 16th and Capitol Ave. and took special cars for the lake. Aquatics and carnival sports had been arranged by the committee in charge, Tom Lynch, Geo. Morris and Tom Balfe, and the picnic was greatly enjoyed by all who attended.

La Porte, Ind.—The New Process Lighting and Heating Co. has been incorporated with a capital stock of $50,000 to deal in gas and gasoline engines. The directors are: C. F. Peterson, C. J. Nudelman, James Kolar, T. W. Steighley and H. B. Johnson.

Houston, Tex.—Robischung Bros. have recently received 10 cars of plumbing fixtures, intended for the Bender Hotel and the Southern Pacific building. This is said to be not only the largest shipment in one order received in Houston but the largest single order of the kind ever shipped into Texas.

Grand Junction, Colo.—Raymond Hutton, the 12-year old son of Plumbing Inspector Hutton, is the hero of the first fish story that has reached the local trade this season, being credited with capturing a 14 lb. white salmon with his hands. Young Hutton was walking along the river-bank when he saw the fish in the shallow water. Jumping in, he succeeded in geeting his hands up in the fish's gills and overpowing it. Fishing for these big salmon has been excellent in the Gunnison River this season, but it is said this is one of the largest ever taken here.

Norfolk, Nebr.—Chris Kreuch and Frank Genung have formed a partnership and purchased the Foster building at 106 S. Seventh St., where they will conduct their plumbing business.

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